SERVICE MANUAL

Philips
BDL42xxV

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REVISION LIST

Model Name	Version	Issues Date	Remark
BDL42xxV	1.0	2009-12-23	First Release

WARNNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians.
Any attempt to service or repair the product or products dealt within this service information by anyone else could result in serious injury or death.

SAFETY PRECAUTIONS

1. Caution
No modification of any circuit should be attempted. Service work should only be performed after you are through familiar with all of the following safety checks and servicing guide lines.

2. Safety check
Care should be taken while servicing this LCD display. Because of the high voltage used in the inverter circuit. These voltage are exposed in such areas as the associated transformer circuits.

3. Power supply requirements
The external power converter for this display utilizes AC and DC cords, AC cord is detachable, but DC cord is permanently attached. Any attempt to replace another adapter could result in serious problem on the display.

4. Leakage current hot check
4-1 Plug the AC cord directly into the AC outlet. Do not use an isolation transformer during this check.

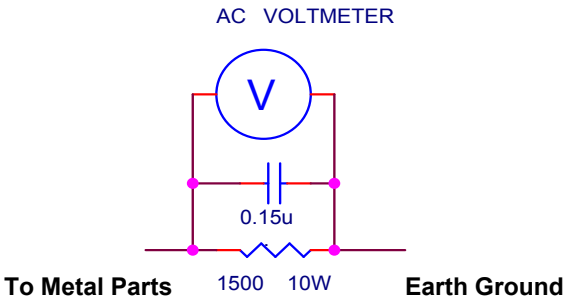
4-2 Connect a 1500 ohm, 10 watt resistor, paralleled by a 0.15uF capacitor between each metallic part and a good earth ground.

4-3 Use an AC voltmeter with 1000 ohm / volt or more sensitivity and measure the AC voltage across the combination 1500 ohm resistor and 0.15uF capacitor.

4-4 Move the resistor connection to each exposed metallic part and measure the voltage.

4-5 Reverse the polarity of the AC plug in the AC outlet and repeat the above measurement.

4-6 Voltage measured must not exceed 1.5 volt RMS, from any exposed metallic part to the ground. A leakage current tester may be used in the above hot check, in which case any circuit measured must not exceed 1 milliamp. In the case of a measurement exceeding the 1 milliamp value, a rework is required to eliminate the chance of a shock hazard.



GENERAL SPECIFICATION

Index of this chapter:

1. Specification
2. Pin assignment
3. Preset factory mode
4. Outline

1. Specification

Item	Specification
LCD panel size	42 inch
DCR	1000:1 (typical)
Viewing angle	Horizontal 178°, vertical 178° (typical)
Response time	9 ms (GTG)
Brightness	700 cd/m^2 (typical)
Input signal	D-sub, HDMI, S-VEDIO, RS-232C, Audio
Display color	16.7 M colors
Frequency	31-91 kHz Horizontal, 50-75 Hz Vertical
Max resolution	1920 x 1080 (60Hz)
Max Pixel clock	165 MHZ
Tilt	0°
Audio output	5W x2 @ 8 ohm
Power supply	100-240VAC, 50-60Hz
Power consumption	Display mode: Max 232W Sleeping mode: Less than 1W
Size (w/o packing)	Width: 967.6 mm, Height: 559.6 mm, Depth: 123.1 mm
Net Weight	22 kg
Environmental conditions	Operating temperature: 5 ~ 40°C, Humidity: 20-80% Storage temperature: -20 ~ 60°C, Humidity: 10-90%

2. Pin assignment

2.1 15-pin D-sub connector

PIN	Signal
1	Red
2	Green
3	Blue
4	No Pin
5	Ground
6	Ground Red
7	Ground Green
8	Ground Blue
9	+5 V for DDC
10	Ground
11	Ground
12	SDA (DDC Data)
13	H – Sync
14	V – Sync
15	SCL (DDC Clock)

2.2 19-pin HDMI connector

PIN	Signal
1	TMDS Data2+
2	TMDS Data2 Shield
3	TMDS Data2-
4	TMDS Data1+
5	TMDS Data1 Shield
6	TMDS Data1-
7	TMDS Data0+
8	TMDS Data0 Shield
9	TMDS Data0-
10	TMDS Clock+
11	TMDS Clock Shield
12	TMDS Clock-
13	CEC
14	Reserved (N.C. on device)
15	SCL
16	SDA
17	DDC/CEC Ground
18	+5V Power
19	Hot Plug Detect

2.3 4-pin S-VIDEO connector

PIN	Signal
1	GND
2	GND
3	Y (Luminance)
4	C (Chroma)

2.4 9-pin RS-232C connector

PIN	Signal
1	NC
2	RXD
3	TXD
4	NC
5	GND
6	NC
7	RTS
8	CTS
9	NC

3. Connection

AUDIO IN 1, 2, 3
To input audio signal from external equipment such as a computer VCR or DVD player.

AUDIO OUT
To output the audio signal from the AUDIO IN 1, 2 and 3 jack.

EXTERNAL CONTROL (mini D-sub 9 pin)
Connect the IN connector with the RS-232C OUT connector of the computer or a multi-connected BDL42xxV monitor. Connect the OUT connector with the RS-232C IN connector of BDL42xxV monitor.

VIDEO IN/OUT
VIDEO IN connector(BNC and RCA): To input a composite video signal. BNC and RCA are not available at the same time.(Use only one input).
VIDEO OUT connector(BNC): To output the composite video signal from VIDEO IN connector.
S-VIDEO IN connector(Mini din 4 pin): To input the S-video (Y/C separate signal).

EXTERNAL SPEAKER TERMINAL
To output the audio signal from external speakers from AUDIO 1, 2, 3 jack or HDMI.

AC IN connector
Connectors with the supplied power cord.

RGB 1 IN(HDMI 1)
To input digital RGB signals from a computer.
* This connector does not supports analog input. AUDIO is supported via HDMI.

RGB 2 IN(HDMI 2)
To input digital RGB signals from computer.
* This connector does not support analog input. AUDIO is supported via HDMI.

RGB 3 IN(mini D-sub 15 pin)
To input a analog RGB signals from a computer or other RGB equipment.

RGB OUT (mini D-sub 15 pin)
To output the signal from RGB 3 N or 4 IN.

DVD/HD IN(Y, Pb/Cb, Pr/Cr)(BNC)
Connecting equipment such as a DVD player, HDTV device, or laser disc player.

4. Preset factory mode

All timings must be properly phased, sized and centered.
Full-Screen = The input timing is scaled to full screen, regardless of scaling artefacts
Aspect Ratio = Resolution to which the native is scaled and centered

COMPATIBILITY TABLE

Mode		Aspect Ratio Handling						
Standard	Resolution	Full-Screen	Aspect Ratio	Composite	SVHS	YPBPR	RGB	HDMI
VESA	640x480 @ 60Hz	1920x 1080	16:9	N	N	N	Y	Y
VESA	640x480 @ 72Hz	1920x 1080	16:9	N	N	N	Y	Y
VESA	640x480 @ 75Hz	1920x 1080	16:9	N	N	N	Y	Y
	720x400 @ 70Hz	1920x 1080	16:9	N	N	N	Y	Y
VESA	800x600 @ 60Hz	1920x 1080	16:9	N	N	N	Y	Y
VESA	1024x768 @ 60Hz	1920x 1080	16:9	N	N	N	Y	Y
	1280 x 720 @ 60Hz	1920x 1080	16:9	N	N	N	Y	Y
PD40	1280 x 768 @ 60Hz	1920x 1080	16:9	N	N	N	Y	Y
VESA(M9)	1280 x 768 @ 60Hz	1920x 1080	16:9	N	N	N	Y	Y
VESA	1280x1024 @ 60Hz	1920x 1080	16:9	N	N	N	Y	Y
M9	1360 x 768 @ 60Hz	1920x 1080	16:9	N	N	N	Y	Y
VESA	1360 x 768 @ 60Hz	1920x 1080	16:9	N	N	N	Y	Y
VESA	1600x1200 @ 60Hz	1920x 1080	16:9	N	N	N	Y	Y
M9	1920x1080 @ 50Hz	1920x 1080	16:9	N	N	N	Y	Y
SMPTE	1920x1080 @ 60Hz	1920x 1080	16:9	N	N	N	Y	Y
	1920x1080 @ 60Hz	1920x 1080	16:9	N	N	N	Y	Y
PAL	576I(50Hz)	1920x 1080	16:9					
NTSC	480I(60Hz)	1920x 1080	16:9					
DVD	480p(60Hz)	1920x 1080	16:9					
	480i(60Hz)	1920x 1080	16:9					
	720p(50Hz)	1920x 1080	16:9					
	720p(60Hz)	1920x 1080	16:9					
	1080i (50Hz)	1920x 1080	16:9					
	1080i (60Hz)	1920x 1080	16:9					

OVERCAN

Component over scan: 5~8%
AV over scan: 5~9%
HDMI/DVI-D over scan: No over scan for PC input, 5~9% for video source.
PC: No over scan

ASIC FOS Performance (excluding Scaling Artifacts) will be judged according to:

Definition of "COMPATIBLE MODE":

ASIC correctly recognizes the proper resolution and applies the correct display scaling to the image. (I.e. a 1280 x 720 signal is properly recognized)

Definition of "PROPERLY SIZED / CENTERED":

The Entire Image (use Display Mate "Side Tics" pattern) perfectly fits the screen. Even one pixel off in Horizontal or Vertical Direction, makes this area "FAIL".

Definition of "PROPERLY PHASED":

ASIC automatically computes the correct A/D response so that a Win98 "SHUTDOWN" or "ALL" Display Mate "MOIRE" Patterns are correctly displayed. Most critical on the panels "NATIVE"; No 'unstableness' of the image shall be observed.

Definition of "HD Compatibility":

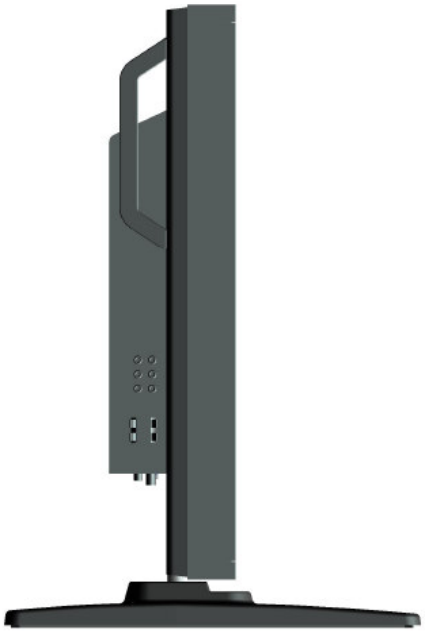
All HD timings have to work through YPbPr, HDMI, and RGB.

5. Outline

5.1 Front view

5.2 Rear view

5.3 Side view



5.4 Top view

OPEARTING INSTRUCTIONS

Index of this chapter:
1. Front-panel controls
2. OSD menu

1. Front-panel controls

All keys are located at the right edge of the display bezel.

EXET	▼	▲	-	+	INPUT	MUTE	⏻

The following front panel controls are available for this product.

EXIT: Located at the right edge of the display that serves as a dual function switch. It is used to exit the menu if the OSD is on. When the OSD is off, it functions as an Aspect Ratio Control.

CHANNEL ▲/▼: Navigate through OSD depending on mode.

VOLUME +/-: Change Volume or navigate through OSD depending on mode.

INPUT: Select input from PC, HDMI, component, composite.

MUTE: Switch audio on/off.

POWER ⏻ : It is a soft power switch and not a main disconnection device. Main disconnection shall be accomplished by physically removing the power cord from the display.

Combination Key						
Function	⏻	▲	▼	-	+	MUTE
Enter Factory Mode	v		v			
Enter Factory Reset				v		v
Lock Front button		v	v			
Reload Color Temperature	v			v	v	

LED Control		
Status	**LED Red**	**LED Green**
AC Power Off	OFF	OFF
Standby Mode	ON	OFF
On Mode	OFF	ON
Power saving (when no OSD)	ON	ON
Schedule Standby	ON	Blinking(500mSec)
Fan defect mode	Blinking(500mSec)	Depends on SET condition
Factory mode	OFF	ON

* Note: Panel performance characteristics “ MUST BE” met in all display modes/inputs at standard test conditions.

2. OSD menu

All audio/video and other output controls shall be performed by using an On Screen Display (OSD) via a Remote Control Unit in conjunction with the front panel controls. The following tables list the OSD functions supported by BDL42xxV.

Level 1	Level 2	Level 3
PICTURE	BRIGHTNESS	0-100
	CONTRAST	0-100
	SHARPNESS	0-100
	BLACK LEVEL	0-100
	NOISE REDUCTION	OFF/ LOW/ MIDDLE/ HIGH
	TINT (Input: HDMI-Video timing, DVI-D(HD timing), CVI, VIDEO only)	0-100
	COLOR (Input: HDMI-Video timing, DVI-D(HD timing), CVI, VIDEO only)	0-100
	COLOR TEMPERATURE	5000K/ 6500K/ 7500K/ 9300K/ 10000K/ 11000K/ USER
	COLOR CONTROL	RED: 0-255 GREEN: 0-255 BLUE: 0-255
	LIGHT SENSOR	ON/OFF
	PICTURE RESET	NO/ YES
SCREEN	H-POSITON	0-100
	V-POSITION	0-100
	CLOCK (Input: PC-A only)	0-100
	CLOCK PHASE (Input: PC-A only)	0-100
	ZOOM MODE	PC: FULL/ NORMAL/ CUSTOM/ REAL(OFF) VIDEO: FULL/ NORMAL/ DYNAMIC/ CUSTOM/ REAL(OFF)
	CUSTOM ZOOM	ZOOM H ZOOM V ZOOM H POSTION V POSTION
	SCREEN RESET	NO/YES
AUDIO	BALANCE	0-100
	TREBLE	0-100
	BASS	0-100
	SPEAKER	INTERNAL/EXTERNAL
	AUDIO RESET	NO/YES
PIP	PIP SIZE	LARGE/ MIDDLE/ SMALL
	PIP AUDIO	MAIN/ SUB
	PIP RESET	NO/ YES
CONFIGURATION1	AUTO ADJUST (Input: PC-A only)	
	POWER SAVE	RGB: ON/ OFF VIDEO: ON/ OFF
	LANGUAGE	ENGLISH/ FRENCH/ GERMAN/ SPANISH/ RUSSIAN/ ITALIAN/ POLISH/ TURKISH/ SIMPLIFY CHINESE
	PANEL SAVING	COOLING FAN: ON/ AUTO BRIGHTNESS: ON/ OFF PIXEL SHIFT: OFF/ 10-999sec
	COLOR SYSTEM (Input: VIDEO only)	AUTO/ NTSC/ PAL/ SECAM/ 4.43NTSC/ PAL-60
	CONFIGURATION RESET	NO/ YES

	FACTORY RESET	NO/ YES
CONFIGURATION2	OSD TURN OFF	OSD TURN OFF
	INFORMATION OSD	ON(1-10sec)/ OFF
	SLEEP TIMER	ON(1-24Hour)/ OFF
	OSD H-POSITION	0-100
	OSD V-POSITION	0-100
	MONITOR INFORMATION	MODEL NAME
		SERIAL NO
		OPERATION HOURS
		SW VERSION
ADVANCED OPTION	INPUT RESOLUTION (Input: PC-A only)	
	BLACK LEVEL EXPANSION (Input: VIDEO only)	High/ Middle/ Low/ OFF
	GAMMA SELECTION	2.2/2.4/ S GAMMA/ NATIVE
	SCAN MODE (Input: HDMI-Video timing, DVI-D(HD timing), CVI, VIDEO only)	OVER SCAN/ UNDER SCAN
	SCAN CONVERSION	PROGRESSIVE/ INTERLACE
	FILM MODE (Input: CVI, VIDEO only)	AUTO/ OFF
	IR CONTROL	NORMAL/ LOCK/ PRIMARY/ SECONDARY
	KEYBOAR CONTROL	NO/ YES
	TILING	H MONITORS
		V MONITORS
		POSITION
		FRAME COMP
		ENABLE
	DATE AND TIME	YEAR
		MONTH
		DAY
		HOUR
		MINUTE
		DAYLIGHT SAVING
		CURRENT DATE TIME
	SCHEDULE	ITEM
		ON TIME HOUR:MINUTE
		OFF TIME HOUR:MINUTE
		INPUT
		EVERYDAY
		MON
		TUE
		WED
		TUR
		FRI
		SAT
		SUN
		EVERYWEEK
	MONITOR ID	
	DDC/CI	ON/ OFF
	HEAT STATUS	HEAT STATUS
		COOLING FAN1
		COOLING FAN2
		TEMPERATURE
		SENSOR 1
		SENSOR 2
	SMART POWER	OFF(LOW)/ MEDIUM/ HIGH
	ADVANCED OPTION RESET	NO/ YES

THEORY OF OPERATION

Index of this chapter:
1. FLI32626H
2. YDA148

1. FLI32626H

The FLI32626H chipset is a cost-effective, highly-integrated, mixed signal solution for ATV, DTV and PVR applications. The FLI32626H chipset offers high integration for advanced applications of Picture-in-Picture (PIP) and Picture-by-Picture (PBP) with an integrated video decoder and audio decoder. The FLI32626H can power up to 1080p displays with the proven Faroudja DCDi Cinema® branded technology.

The FLI32626H comprises an integrated Analog Front End (AFE) that includes dual sets of highspeed triple 10-bit Analog-to-Digital Converters (ADCs) with front end switching for SD and HD inputs over CVBS, S-Video, Component, and RF inputs. The flexible AFE ensures simple PCB design with direct connections to TV tuners, input video connectors, and Sound Intermediate Frequency (SIF) inputs for baseband audio inputs. The FLI32626H also includes an HDMI 1.3a receiver with the support for HDCP 1.3 for secured audio-visual data transmission with HDMI transmitters.

The device also supports Adaptive Contrast Control II (ACC II) and Active Color Management-3D (ACM-3D) leading to exceptional video quality. This exclusive level of video quality technology, only seen on Faroudja® Home Theater Systems in the past, is now available in a singlechip solution.

The integrated VBI dataslicer and video decoder remove the need for external components resulting in significant cost reduction. The FLI32626H supports many worldwide VBI standards for applications of Teletext, Closed Captioning, V-Chip, and other VBI services.

The audio decoder interface for FLI32626H chipsets offers support for both analog and digital audio input and output interfaces. The multi-standard audio decoder can capture and digitally process SIF and is capable of decoding all Analog Mono/Stereo, Digital Stereo (NICAM), FM radio, and EIAJ standards. It can also process baseband Mono/Stereo inputs and can receive and process I2S or SPDIF input. The baseband audio inputs and decoded SIF inputs are processed through a very powerful audio engine. Apart from the processed Stereo output, the separate subwoofer and headphone outputs enhance the true audio reproduction using the integrated 10-bit audio codecs. The digital audio outputs can be driven simultaneously over I2S channels, DSD, or SPDIF channels. With the above special features, along with the embedded microprocessor and versatile OSD, the FLI32626H is the only device needed for a single LCD TV chassis supporting worldwide audio and video standards. For regional variations in audio and video standards, only connector and firmware changes are required.

2. YDA148

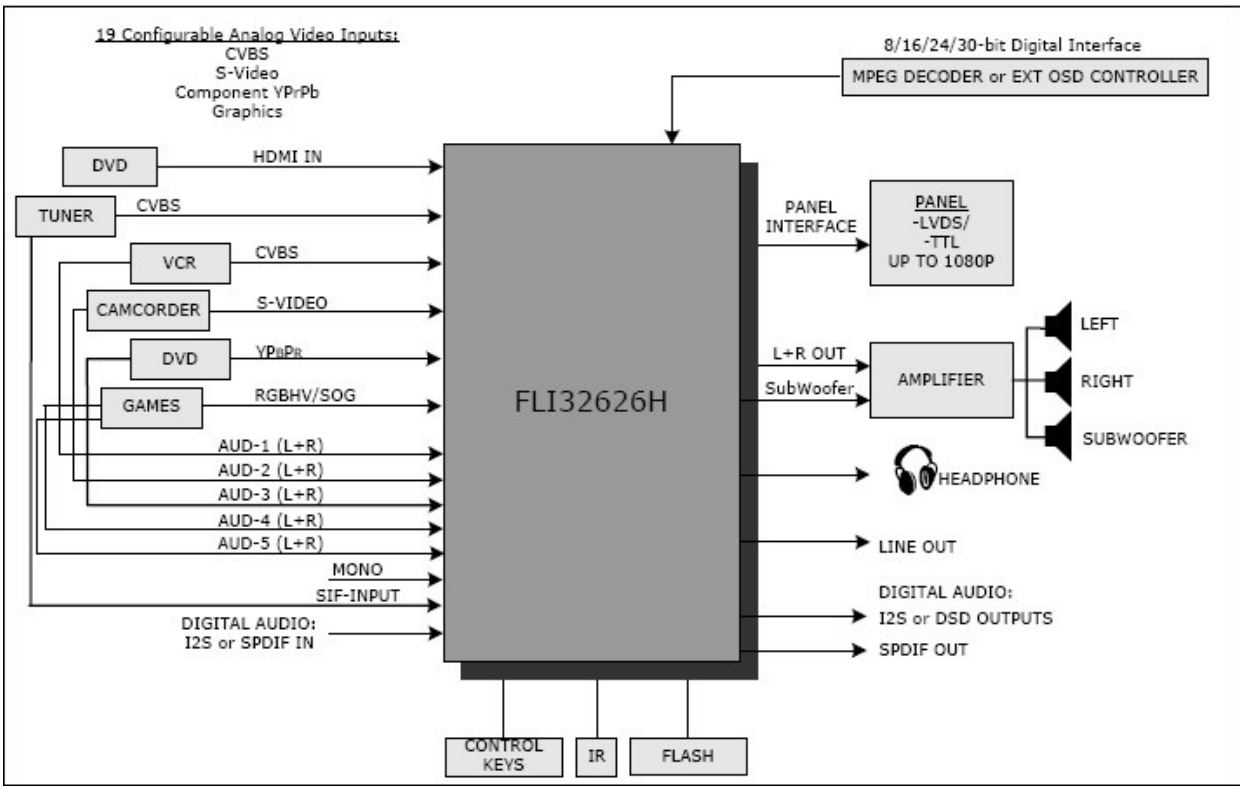
YDA148 (D-510) is a high-efficiency digital audio power amplifier IC with the maximum output of 15W × 2ch.

YDA148 has a “Pure Pulse Direct Speaker Drive Circuit” that directly drives speakers while reducing distortion of pulse output signal and reducing noise on the signal, which realizes the highest standard low distortion rate characteristics and low noise characteristics among digital amplifier ICs in the same class.

In addition, supporting filterless design allows circuit design with fewer external parts to be realized depending on use conditions.

YDA148 features Power Limit Function, Non-clip Function, and DRC (Dynamic Range Control) Function that were developed by Yamaha original digital amplifier technology.

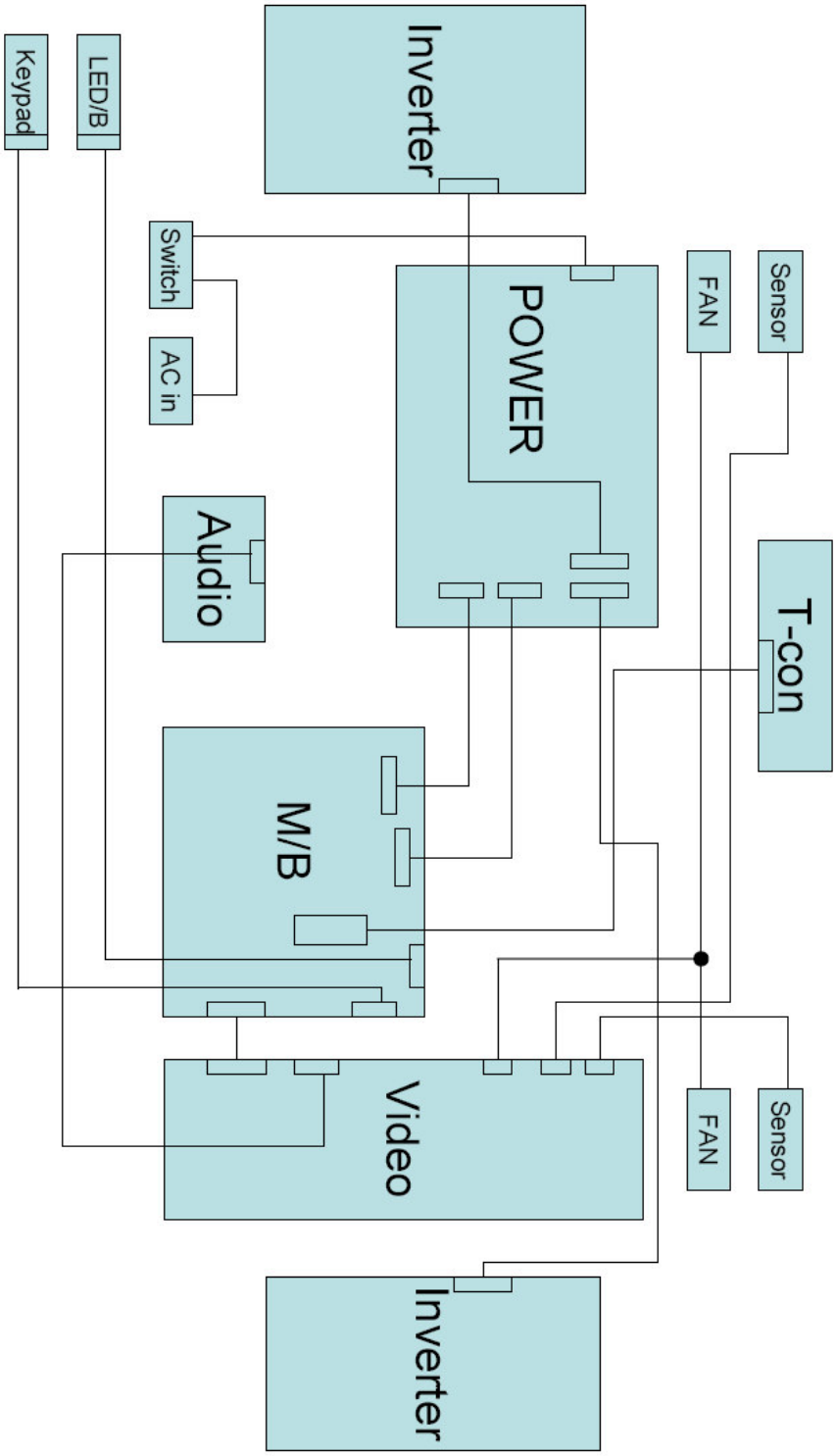
YDA148 has overcurrent protection function for speaker output terminals, high temperature protection function, and lowsupply voltage malfunction prevention function.


19 Configurable Analog Video Inputs:
CVBS
S-Video
Component YPrPb
Graphics
8/16/24/30-bit Digital Interface
MPEG DECODER or EXT OSD CONTROLLER
DVD
HDMI IN
TUNER
CVBS
VCR
CVBS
CAMCORDER
S-VIDEO
DVD
YPBPR
GAMES
RGBHV/SOG
AUD-1 (L+R)
AUD-2 (L+R)
AUD-3 (L+R)
AUD-4 (L+R)
AUD-5 (L+R)
MONO
SIF-INPUT
DIGITAL AUDIO:
I2S or SPDIF IN
FLI32626H
PANEL
INTERFACE
PANEL
-LVDS/
-TTL
UP TO 1080P
L+R OUT
SubWoofer
AMPLIFIER
LEFT
RIGHT
SUBWOOFER
HEADPHONE
LINE OUT
DIGITAL AUDIO:
I2S or DSD OUTPUTS
SPDIF OUT
CONTROL
KEYS
IR
FLASH

BLOCK DIAGRAM

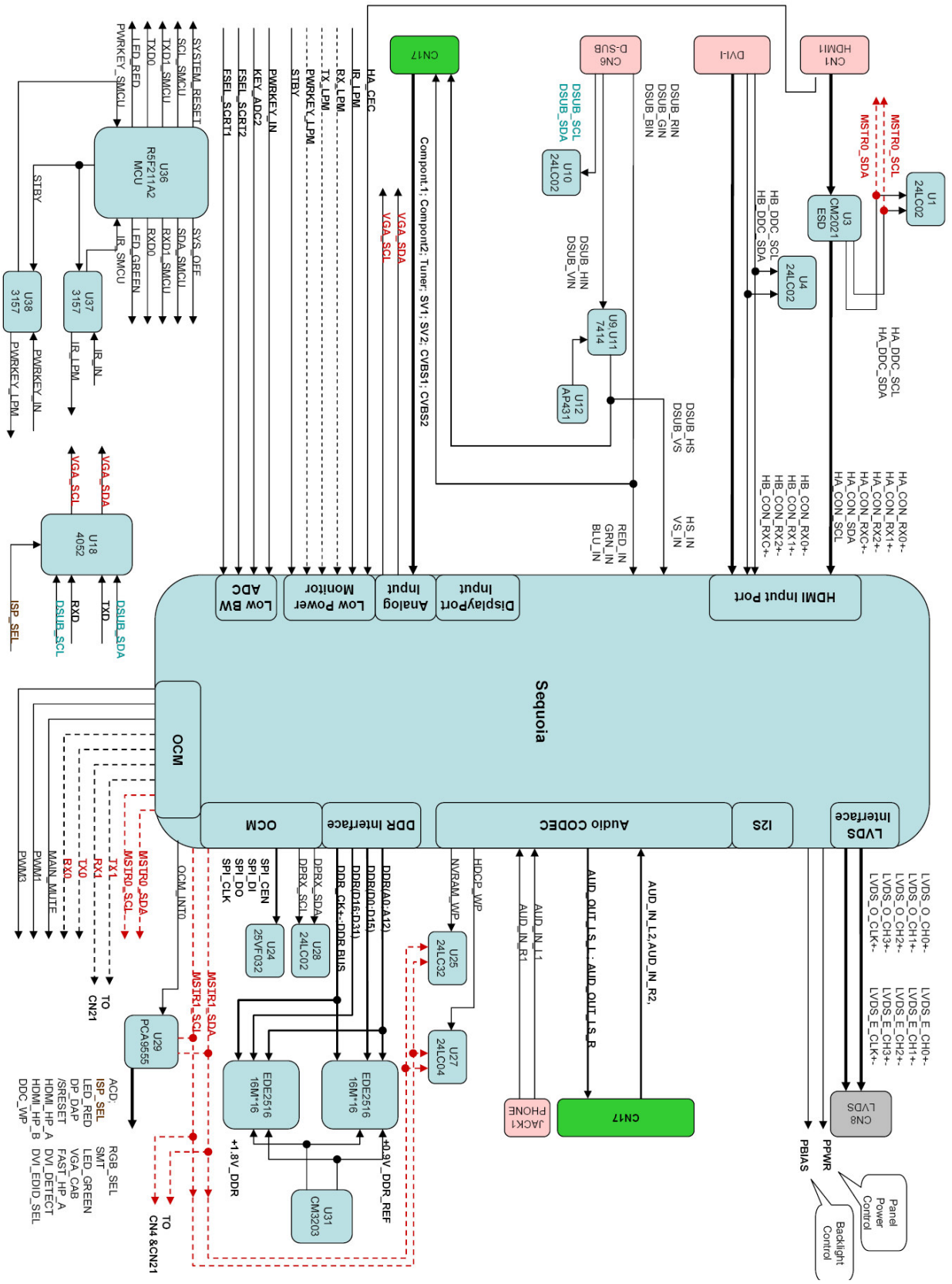
Index of this chapter:
1. Wiring diagram
2. Block diagram

1. Wiring diagram

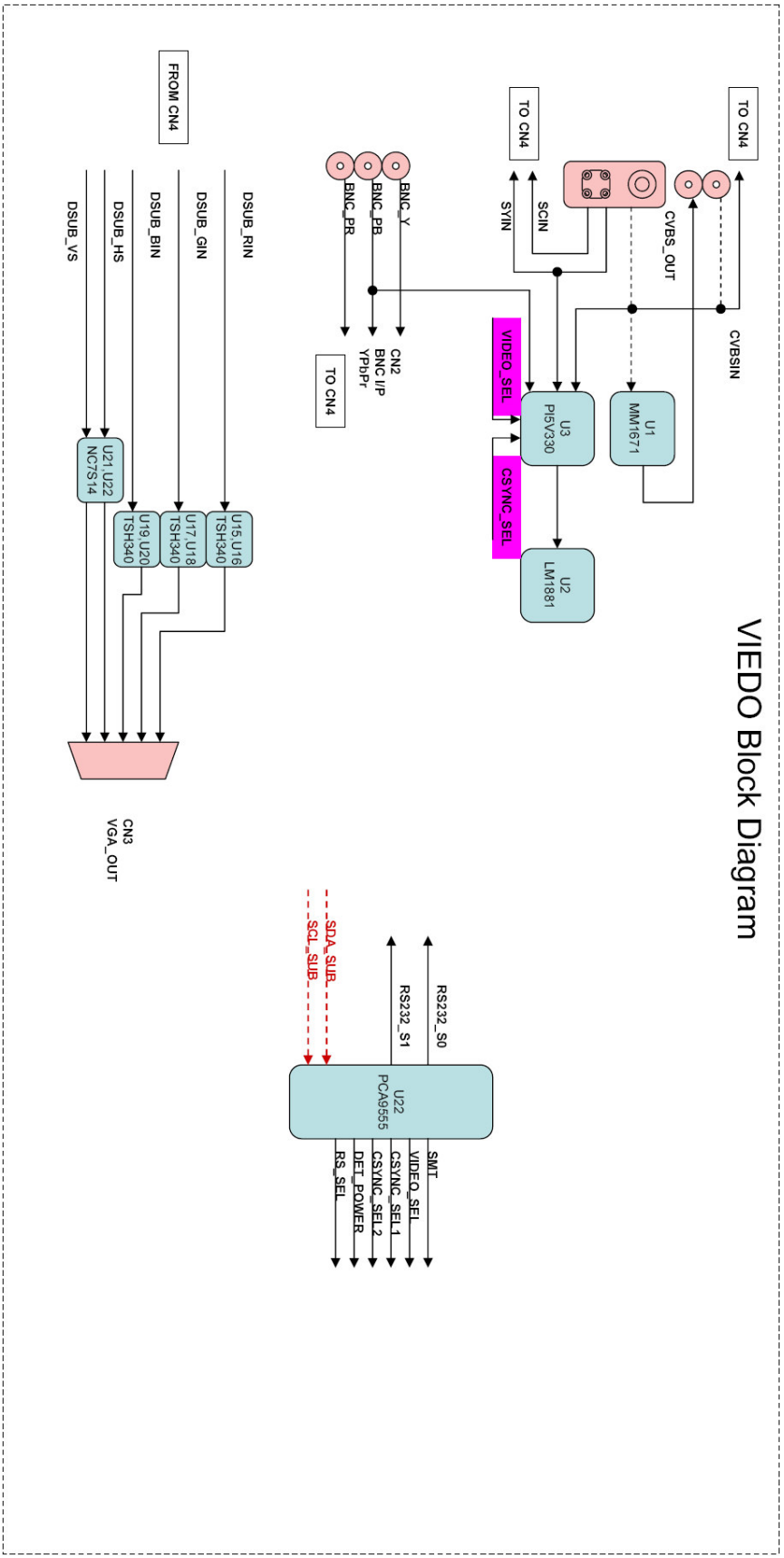


2. Block diagram

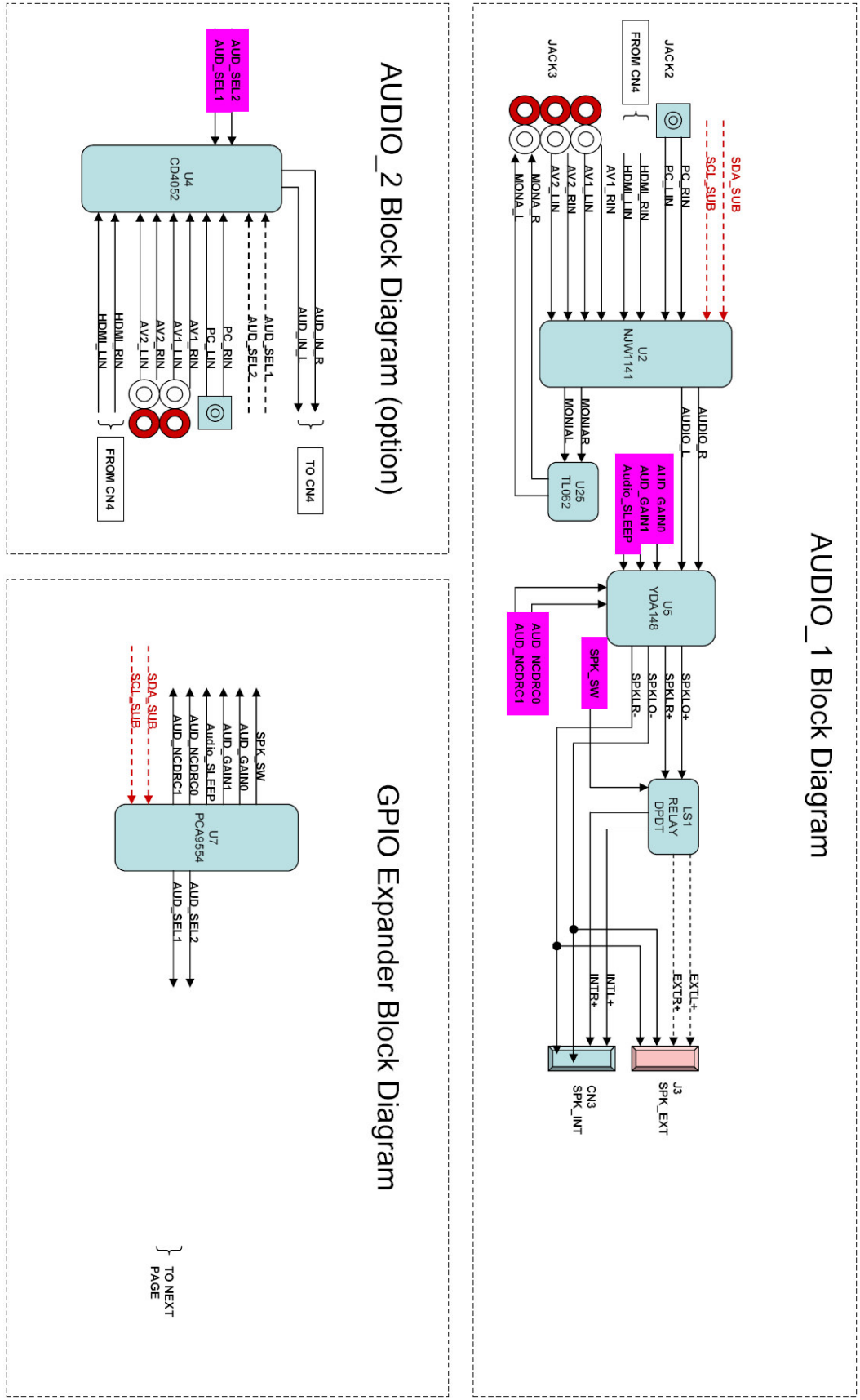
2.1 M/B block diagram



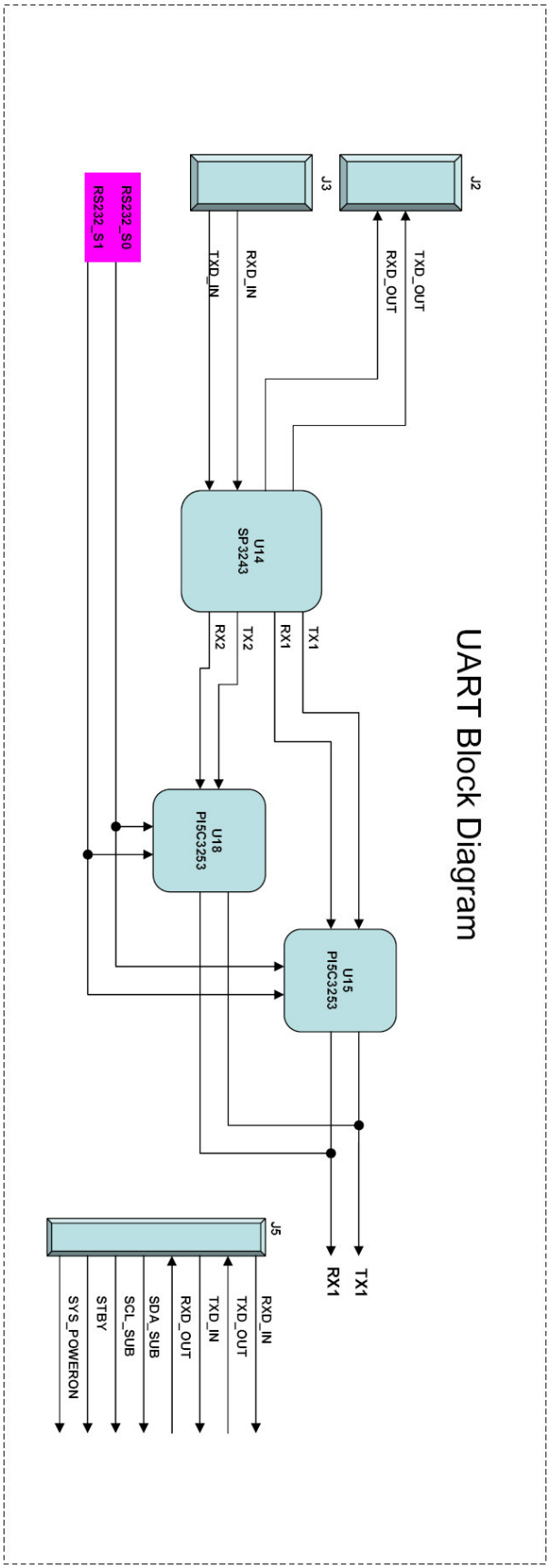
2.2.1 I/O block diagram

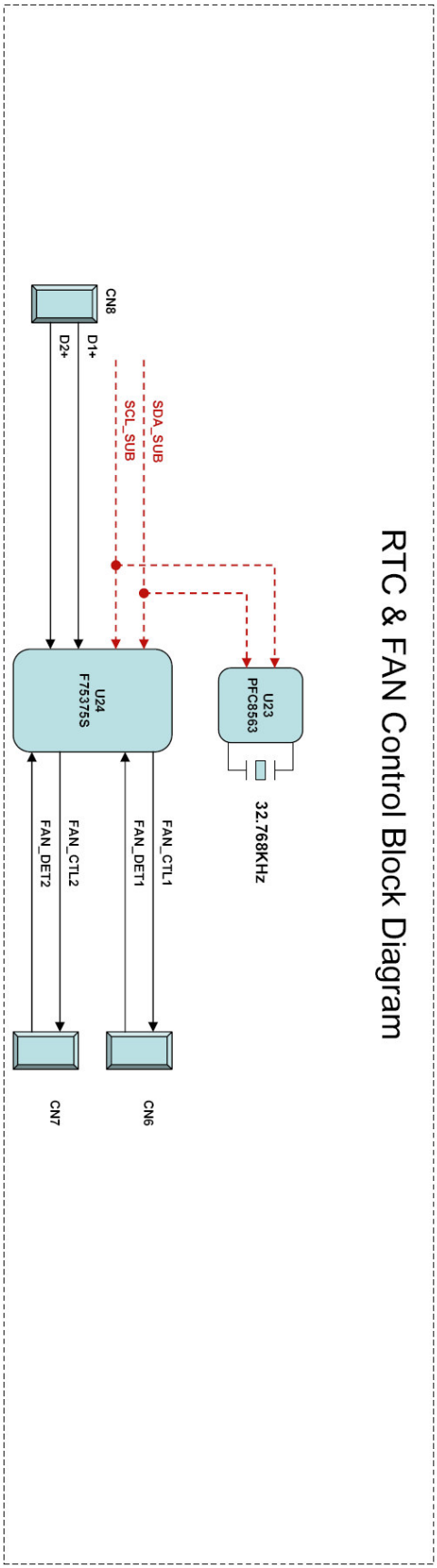


2.2.2 I/O block diagram



2.2.3 I/O block diagram





SCHEMATIC DIAGRAM

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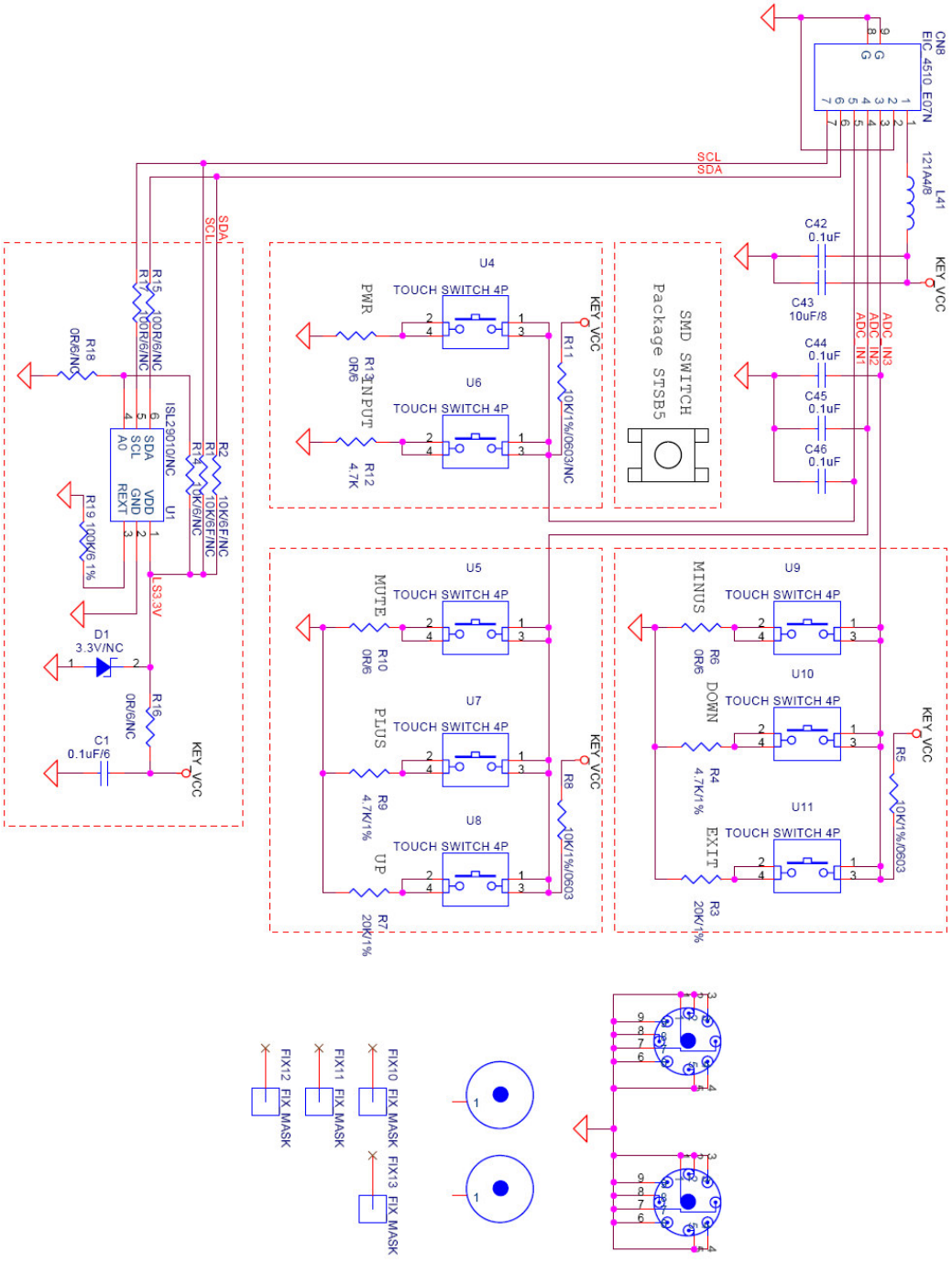
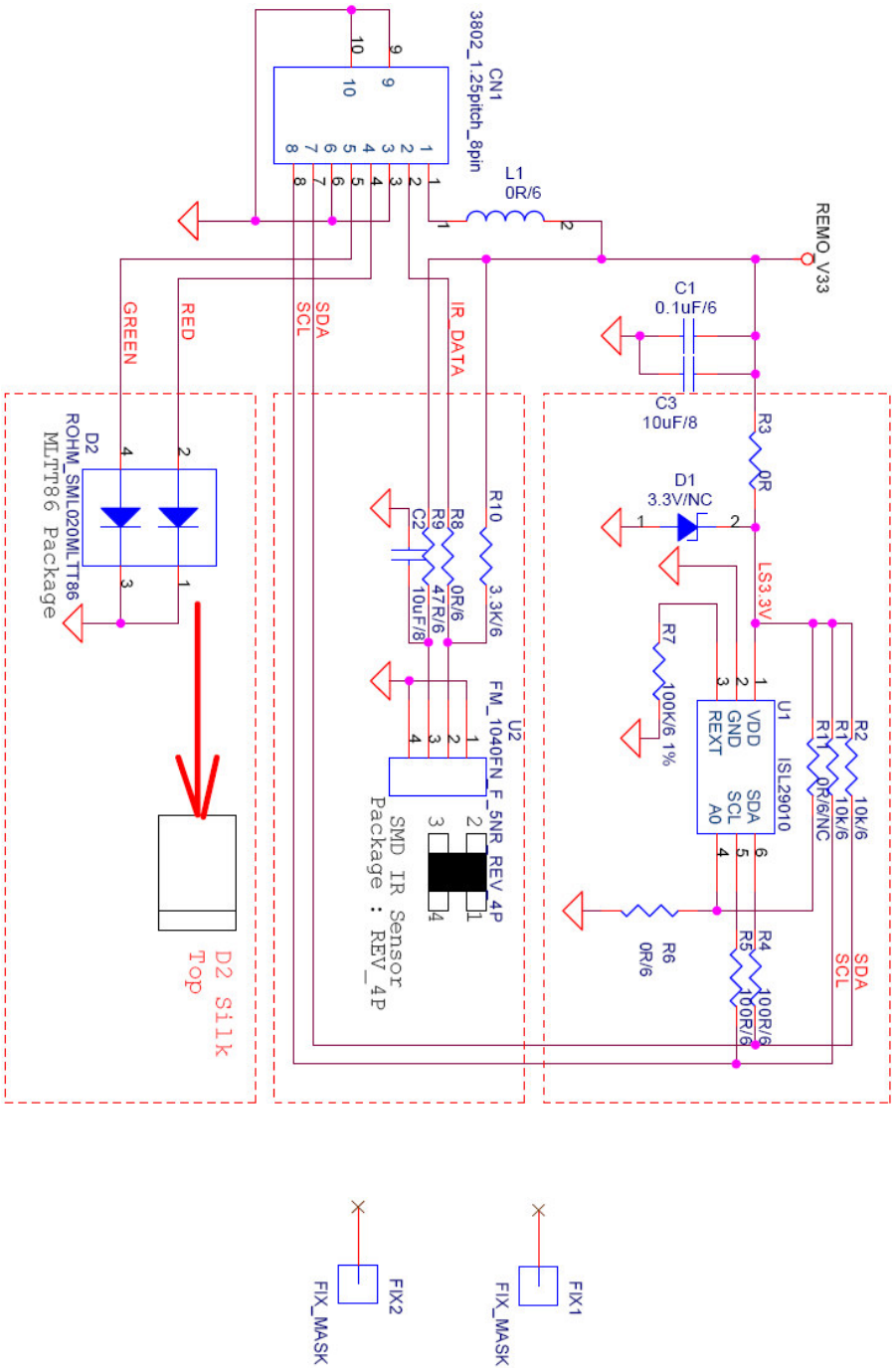
1. Button board
2. LED board
3. Sensor board
4. Video board
5. Audio board
6. Main board
7. Power board

1. Button board



2. LED board


CN1
3802_1.25pitch_8pin
L1
0R/6
REMO_V33
C1
0.1uF/6
C3
10uF/8
R3
0R
D1
3.3V/NC
LS3.3V
R7
100K/6 1%
U1
ISL29010
VDD
GND
REXT
SDA
SCL
A0
R2
10k/6
R1
10k/6
R11
0R/6/NC
R6
0R/6
R4
100R/6
R5
100R/6
SDA
SCL
GREEN
RED
SDA
SCL
IR_DATA
D2
ROHM_SML020MLTT86
MLTT86 Package
R10
3.3K/6
C2
10uF/8
R9
47R/6
R8
0R/6
U2
FM_1040FN_F_5NR_REV_4P
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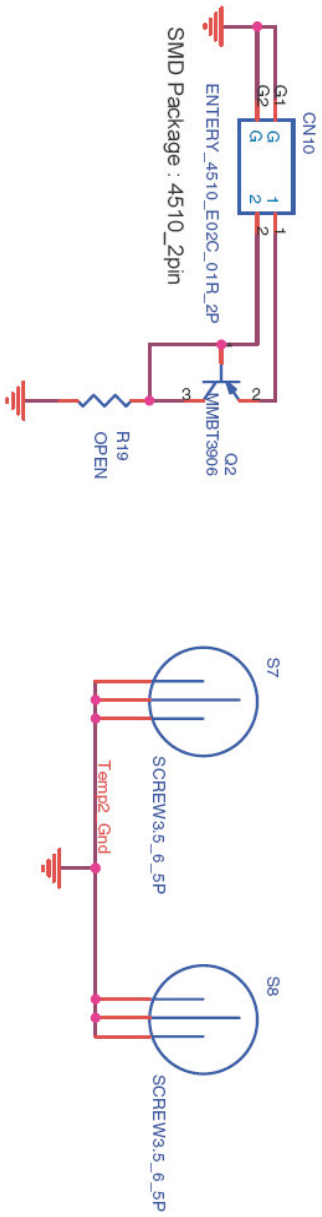
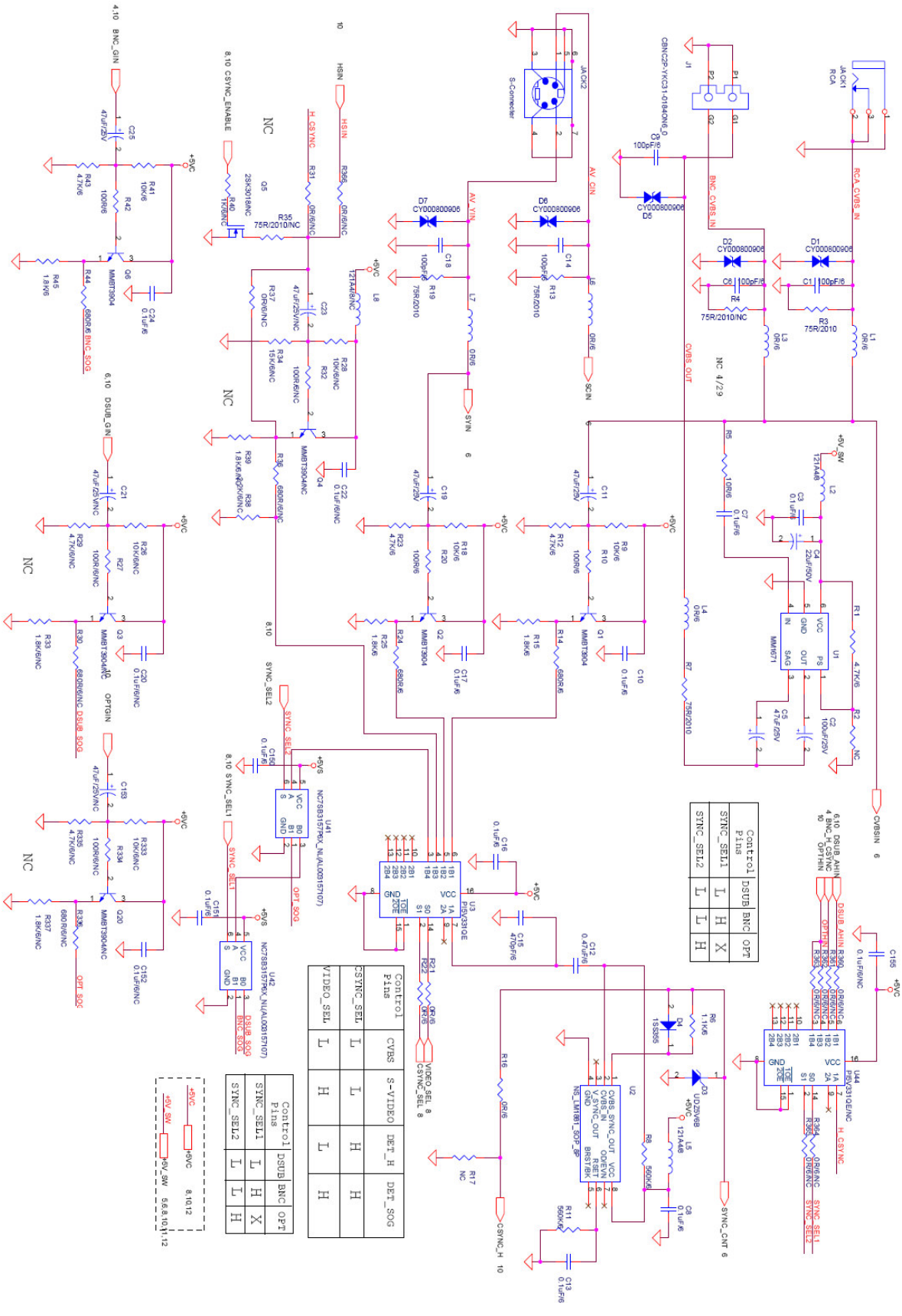
D2 Silk
Top
FIX2
FIX_MASK
FIX1
FIX_MASK

3. Sensor board

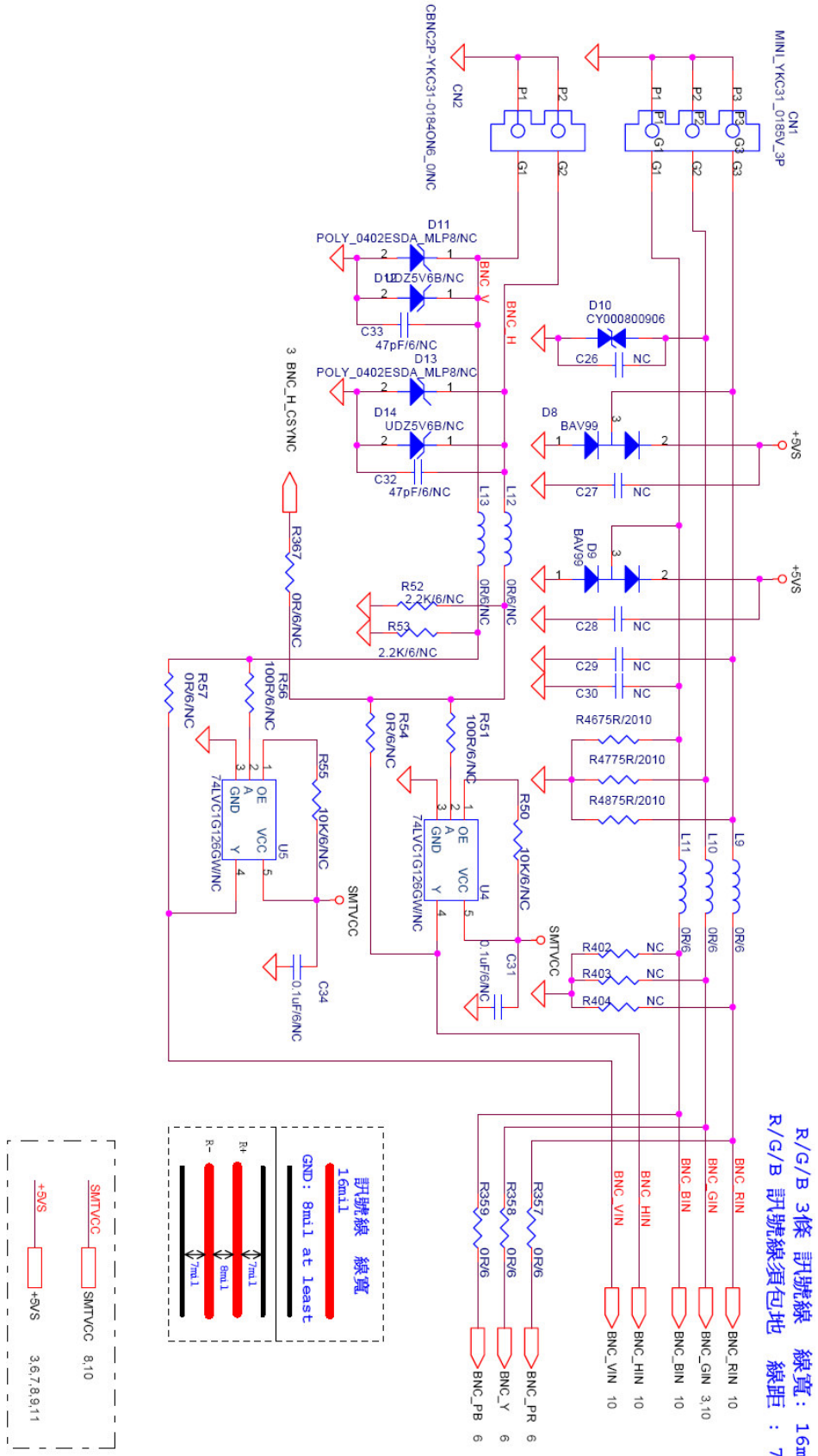


4. Video board

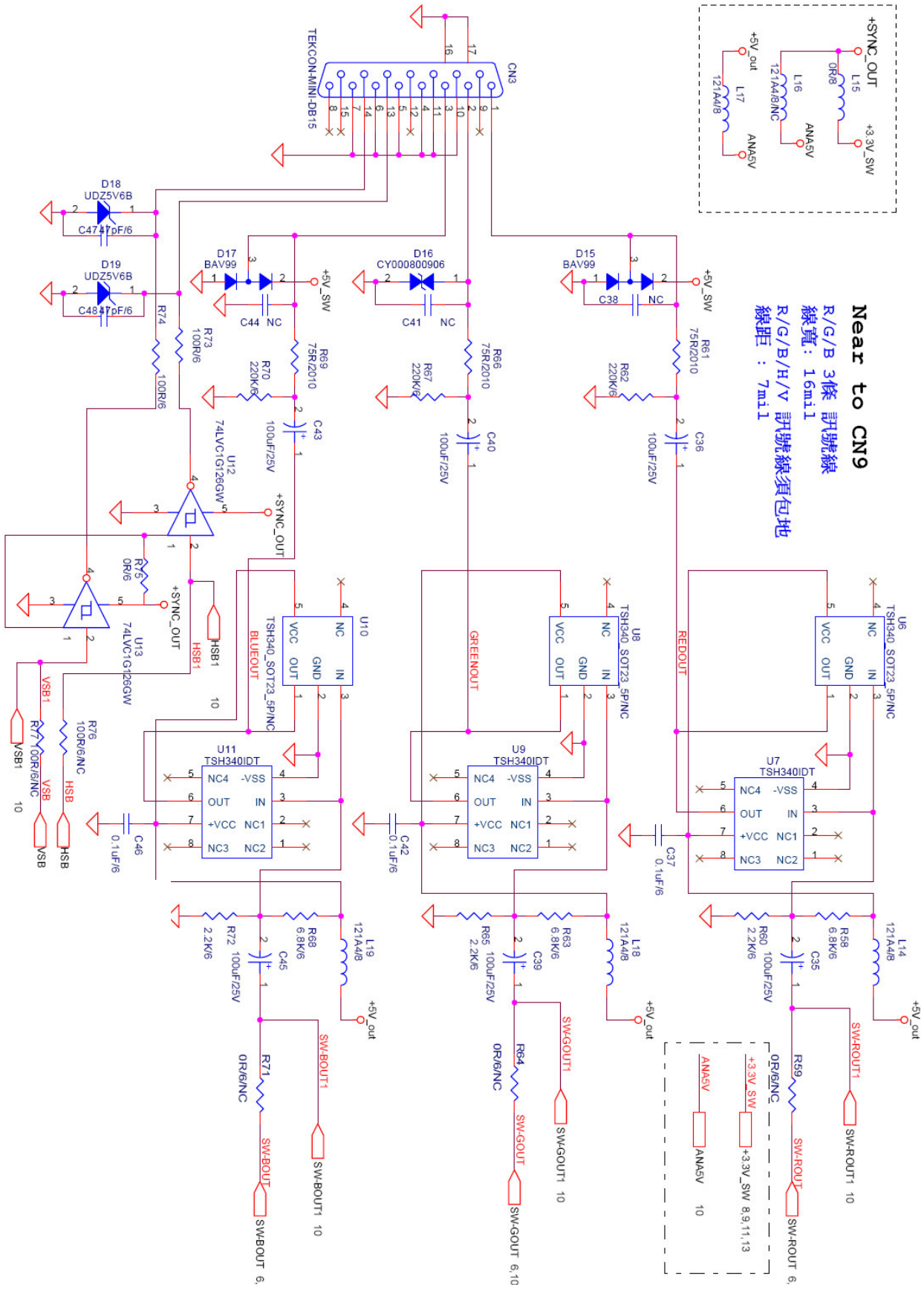
4.1 Video Input



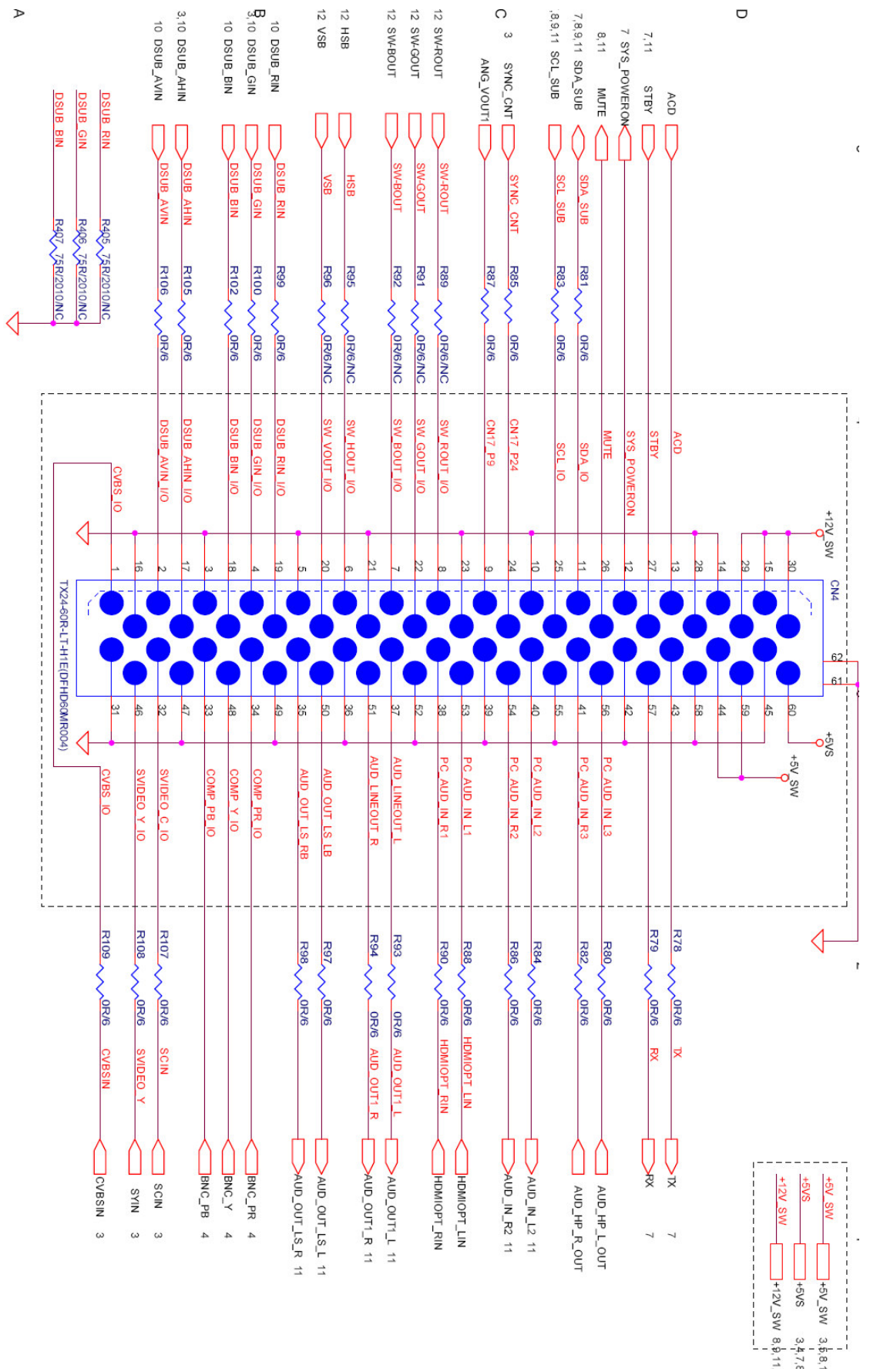
4.2 Analog Input



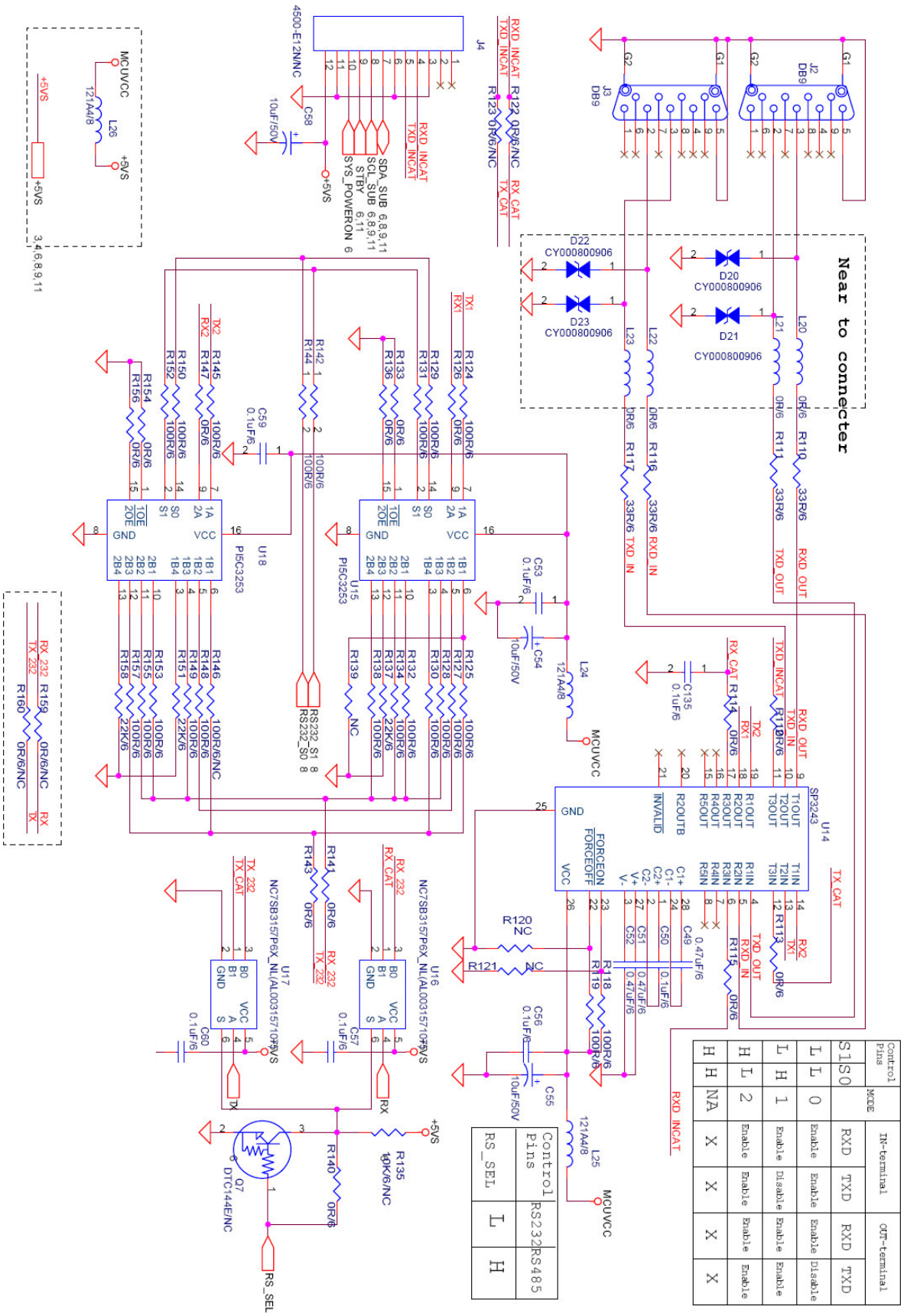
4.3 Analog Output



4.4 Board to Board Connect



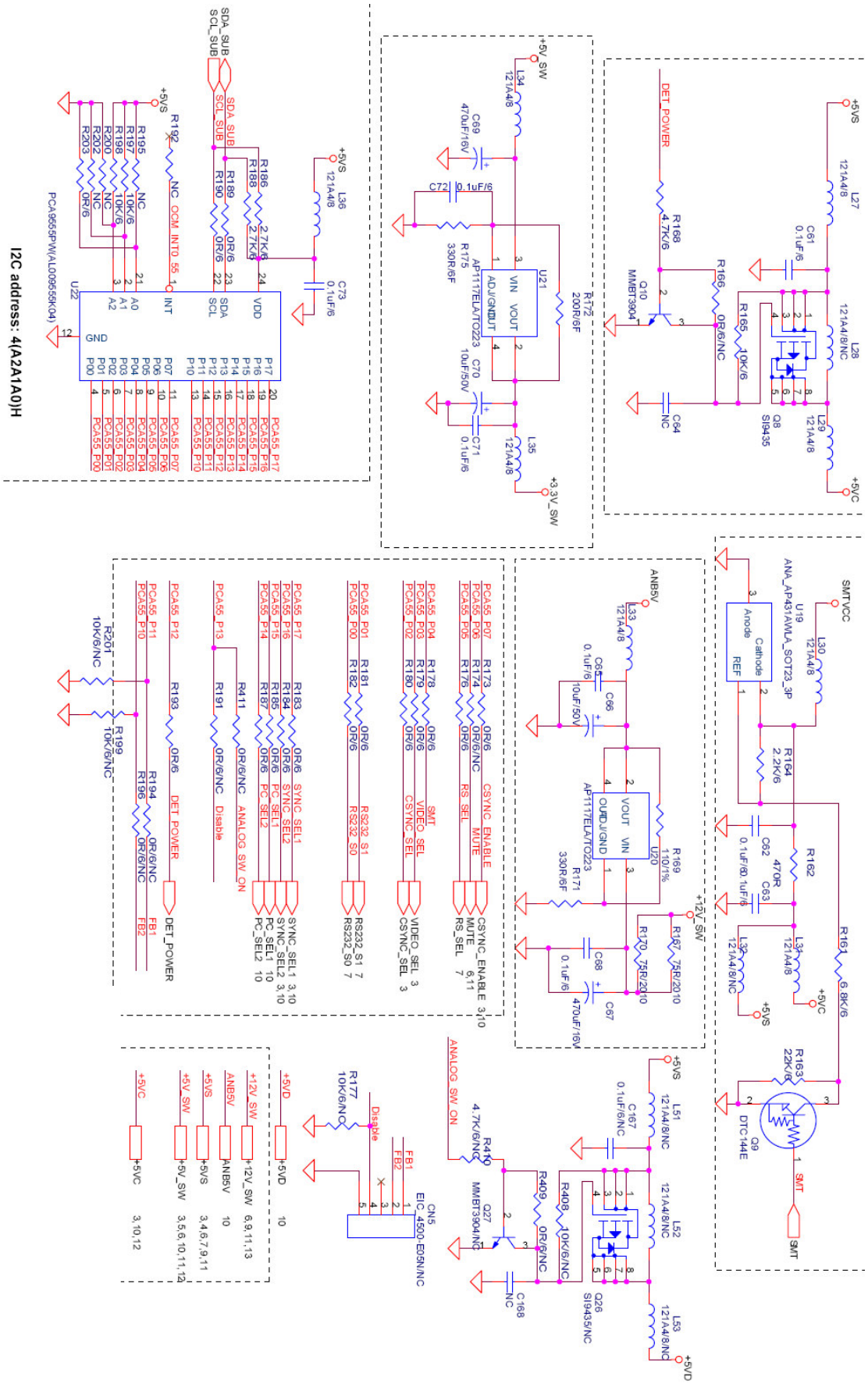
4.5 RS232



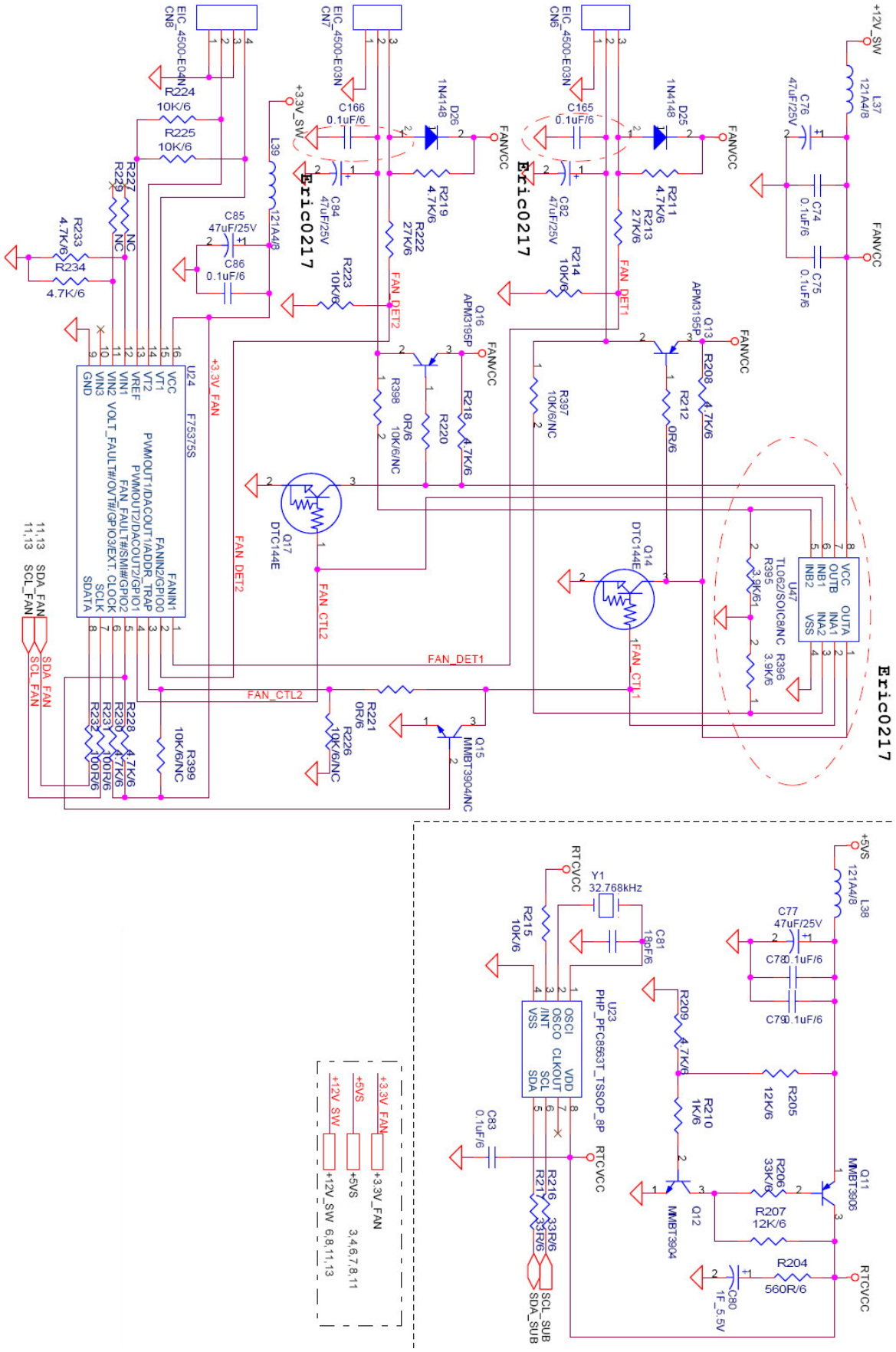
Control Pins		MODE	IN-terminal		OUT-terminal	
S1	S0		RXD	TXD	RXD	TXD
L	L	0	Enable	Enable	Enable	Disable
L	H	1	Enable	Disable	Enable	Enable
H	L	2	Enable	Enable	Disable	Enable
H	H	NA	X	X	X	X

Control Pins	RS232/RS485
RS_SEL	
L	RS232
H	RS485

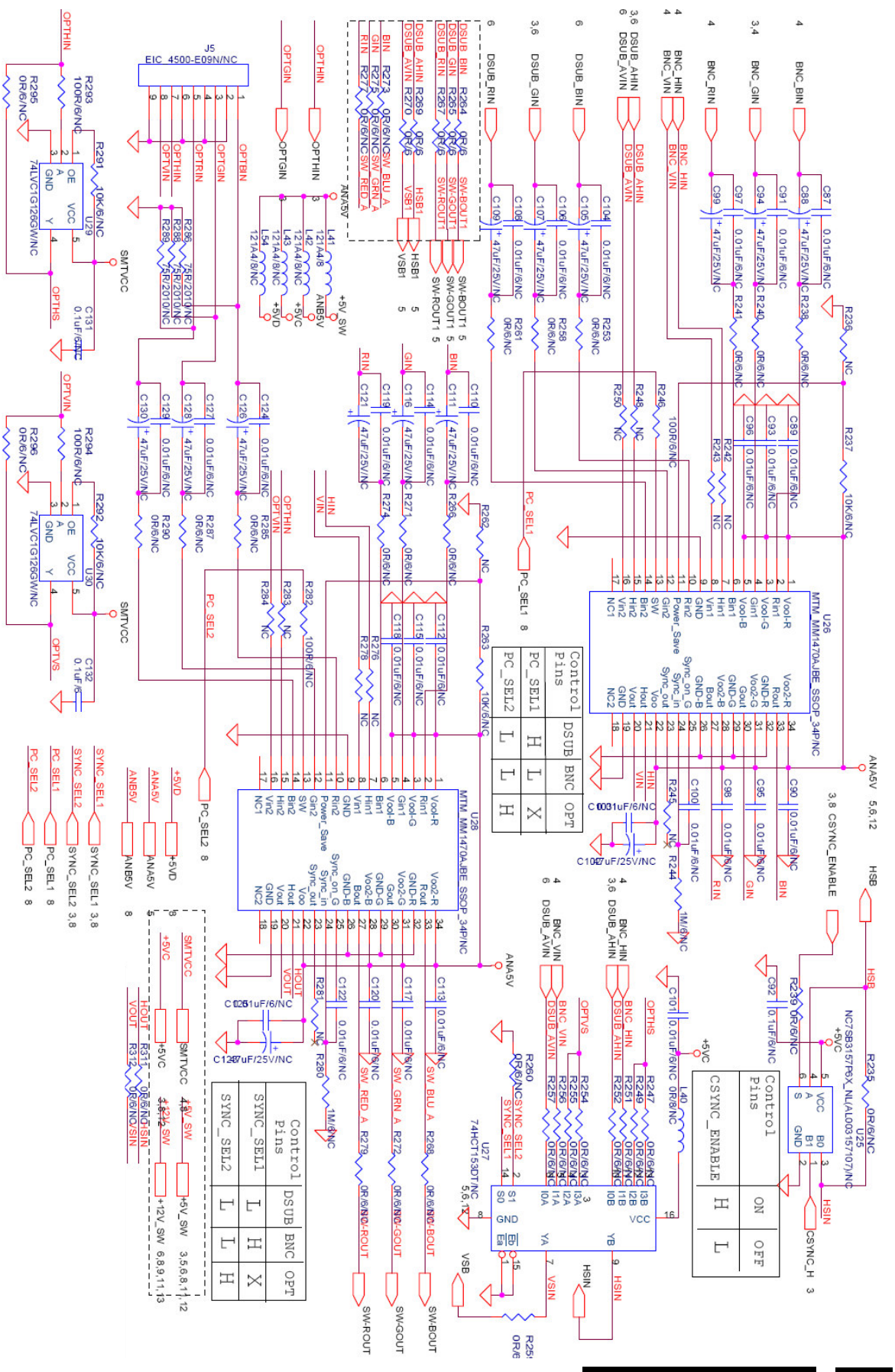
4.6 GPIO & Power



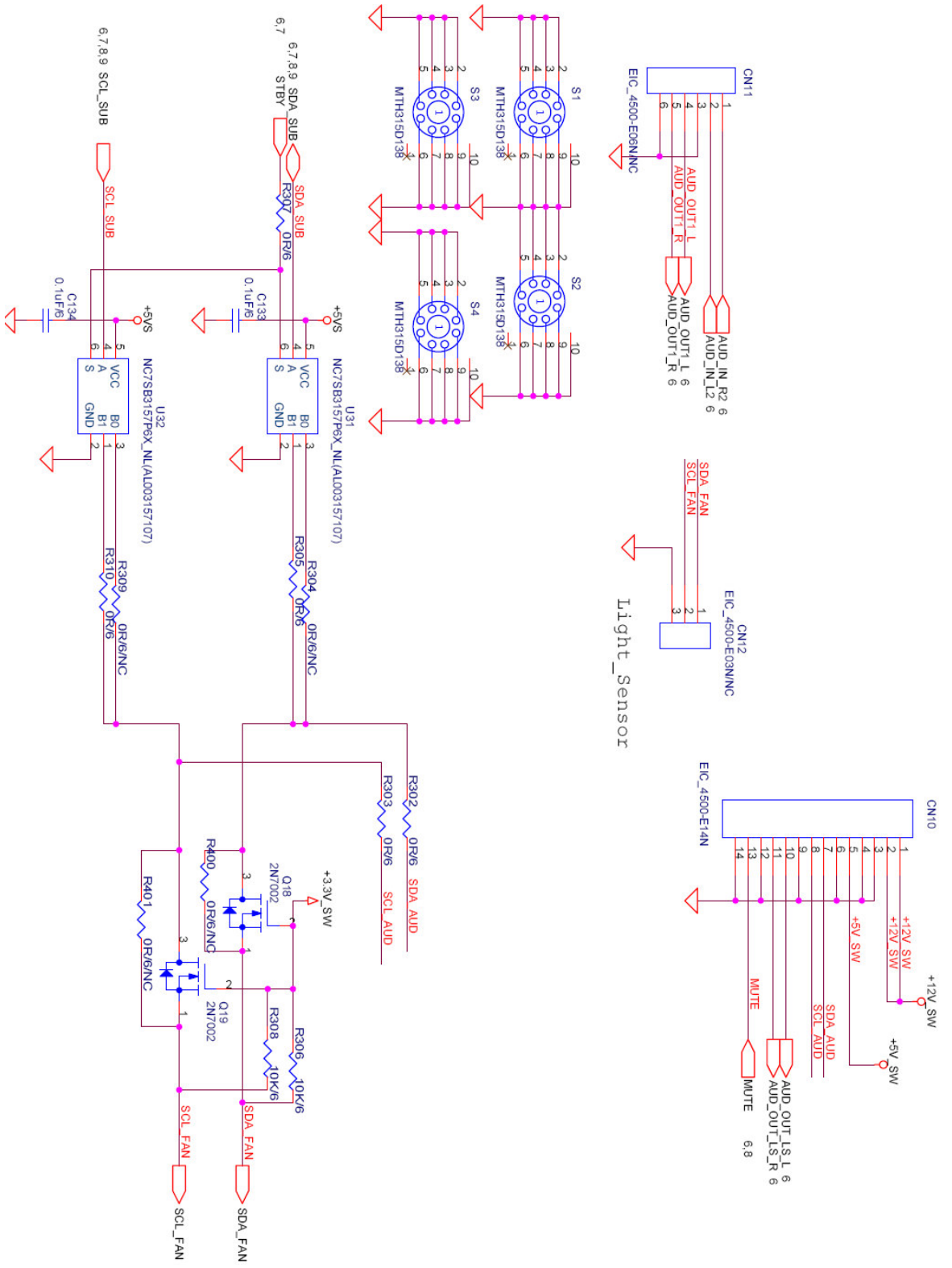
4.7 FAN Control / RTC



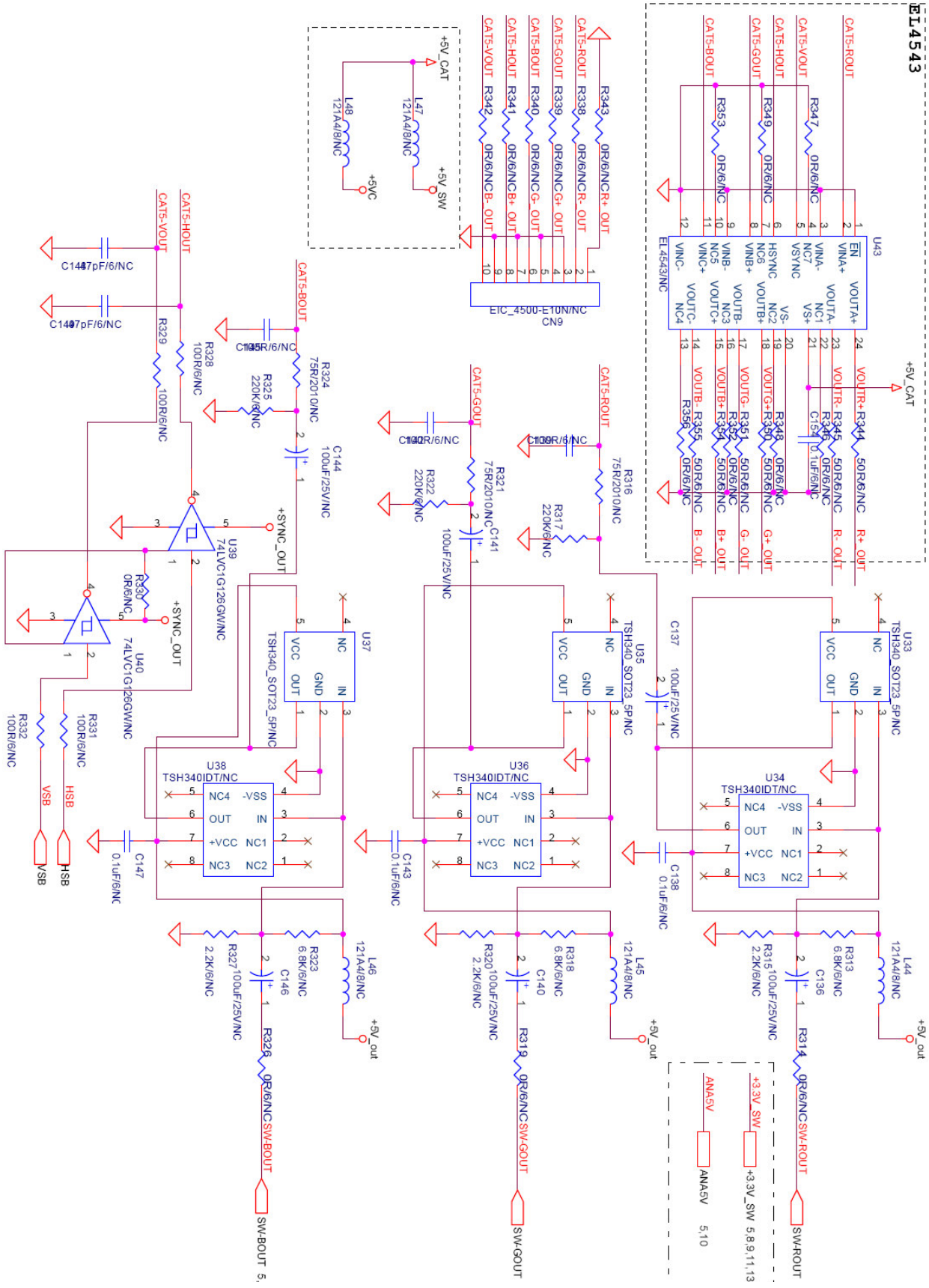
4.8 RGB MUX



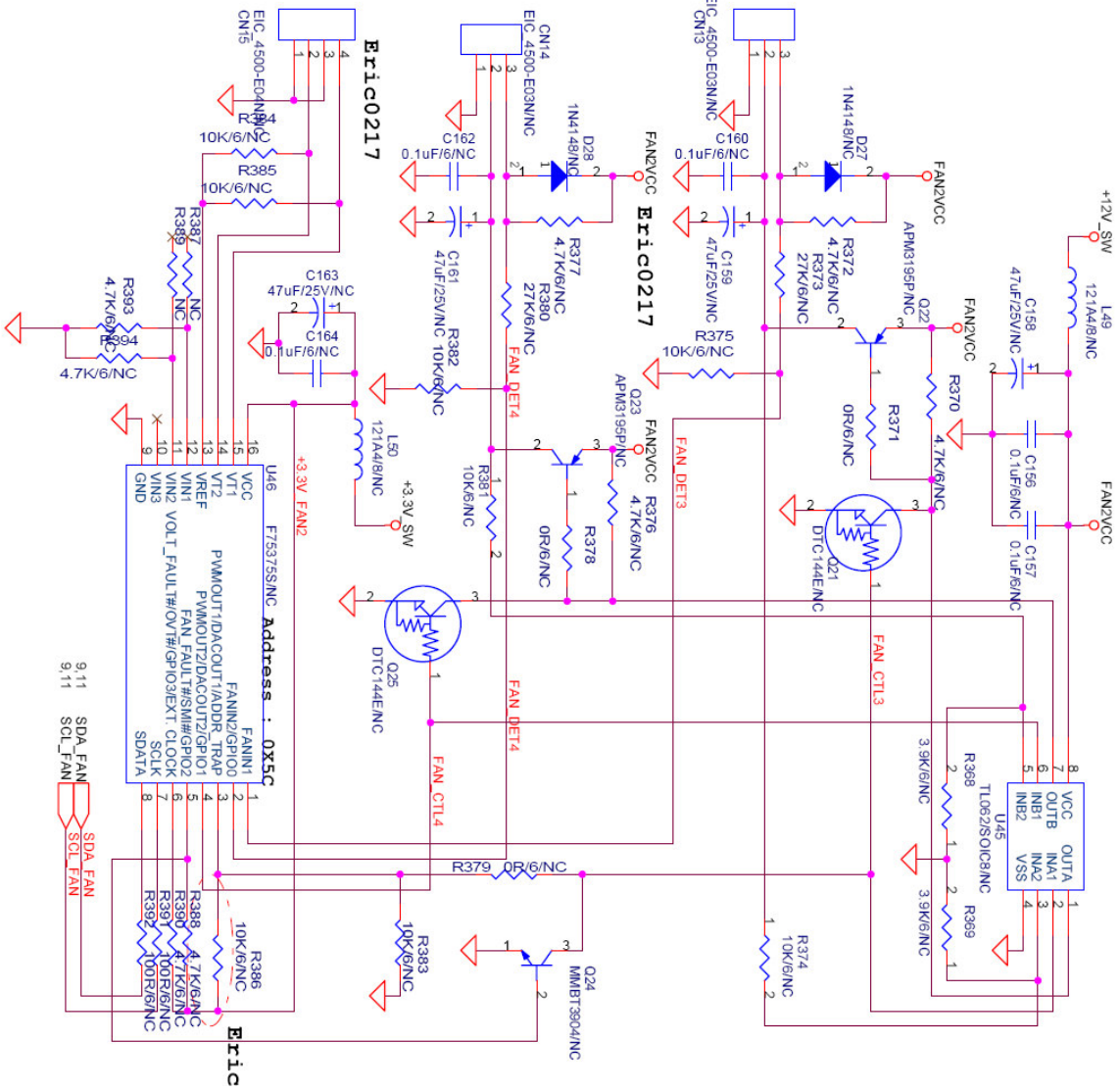
4.9 Interface



4.10 CAT5 Output

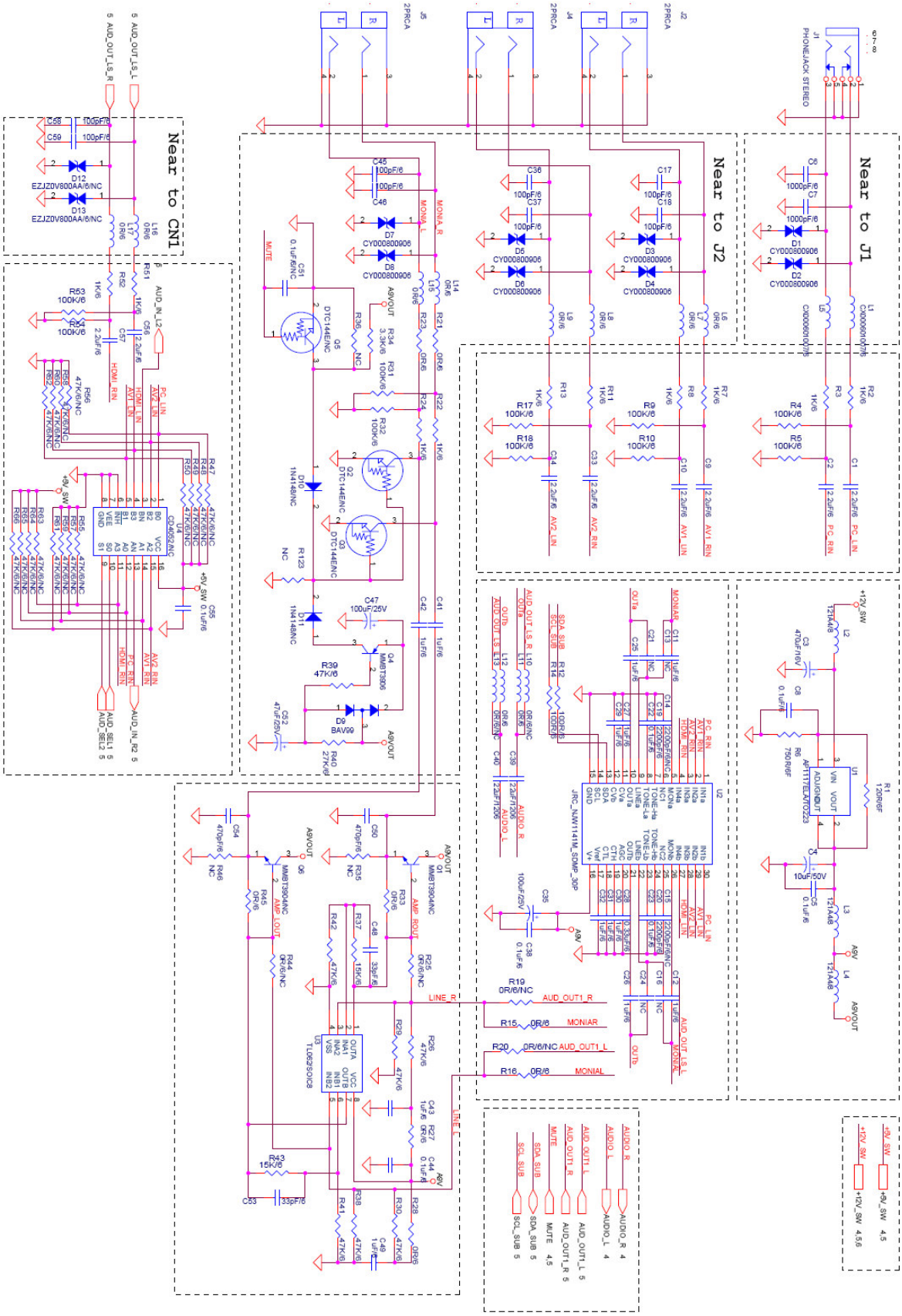


4.11 FAN Control 2

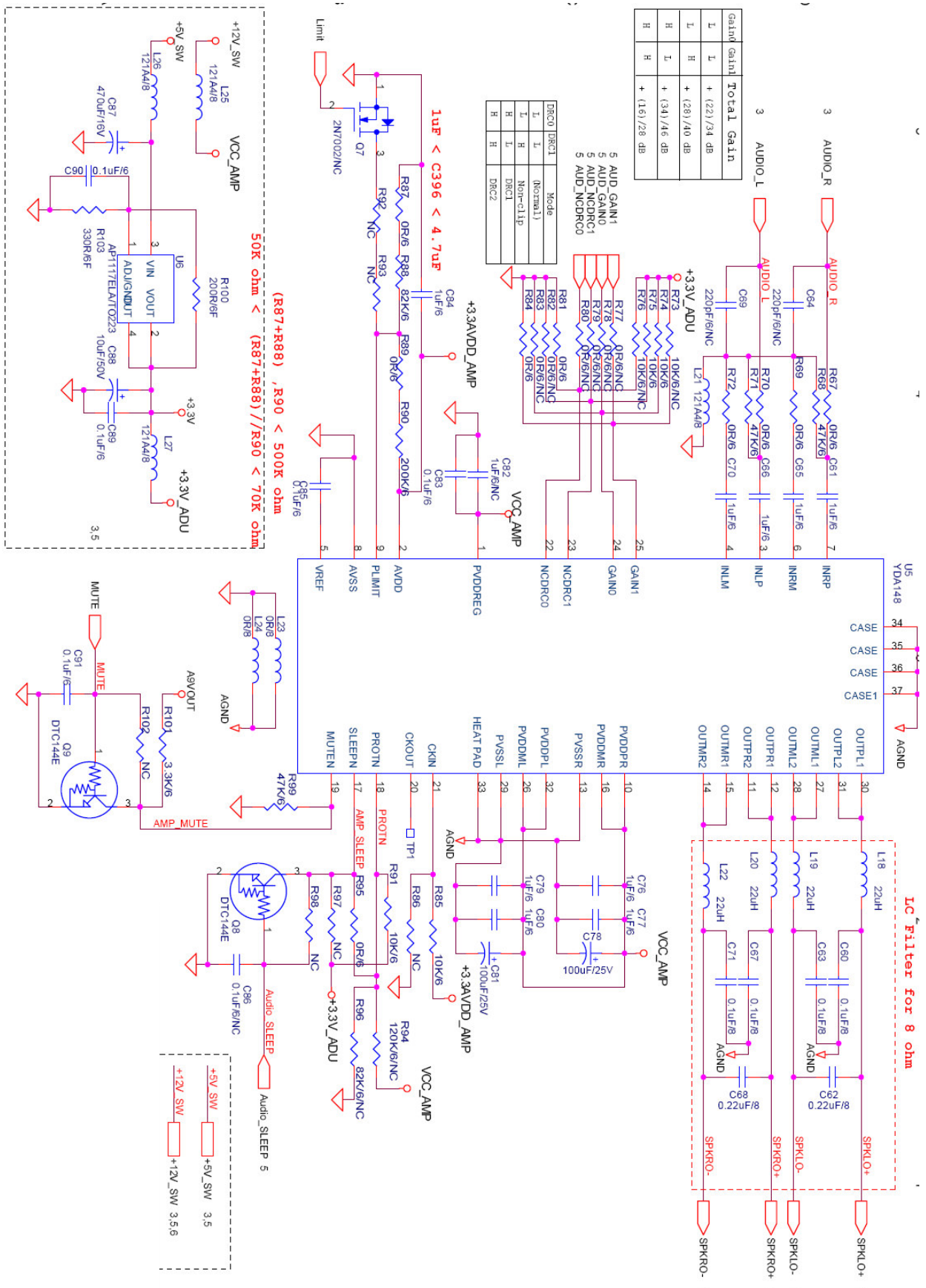


5. Audio board

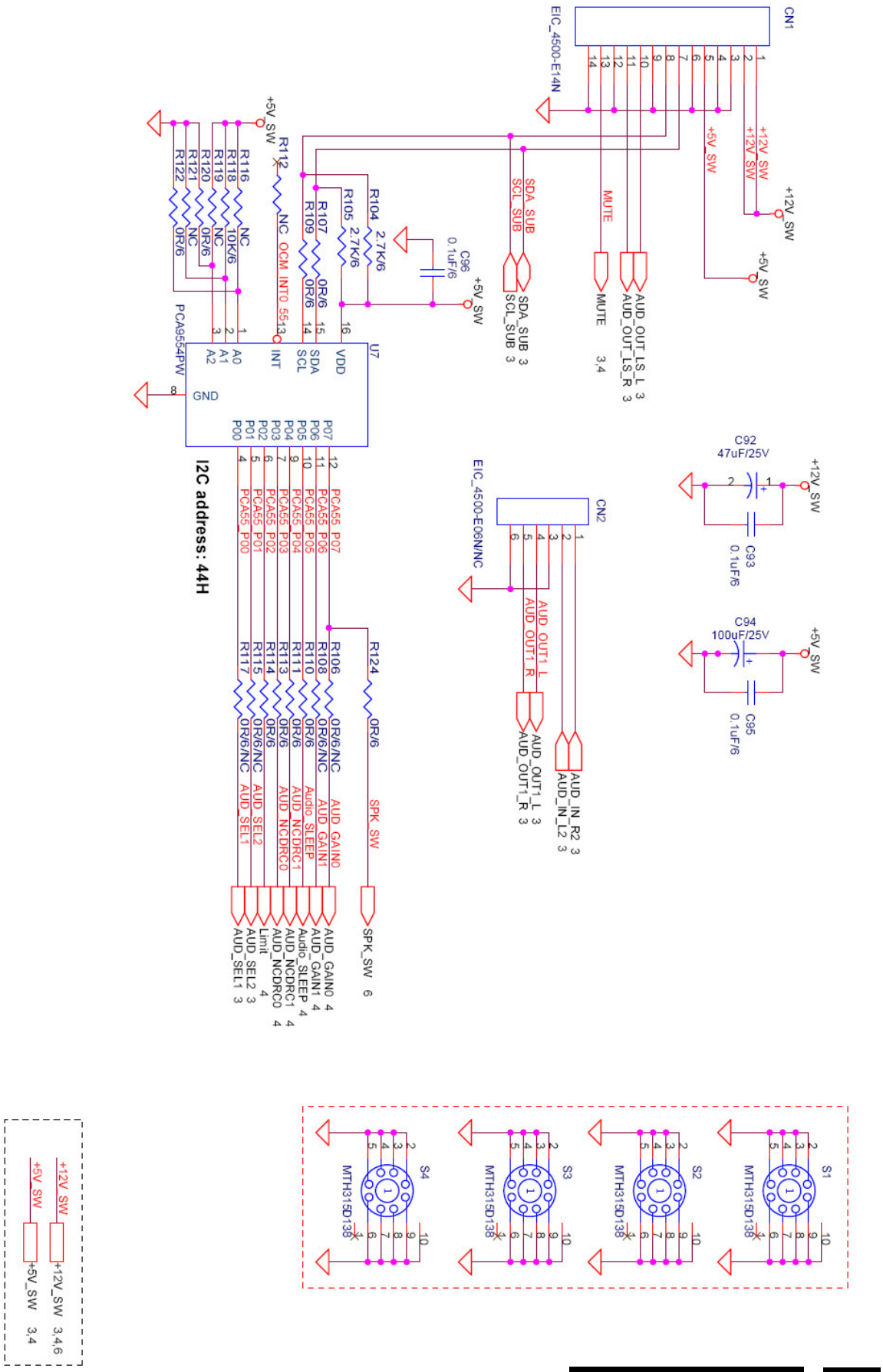
5.1 Audio Input



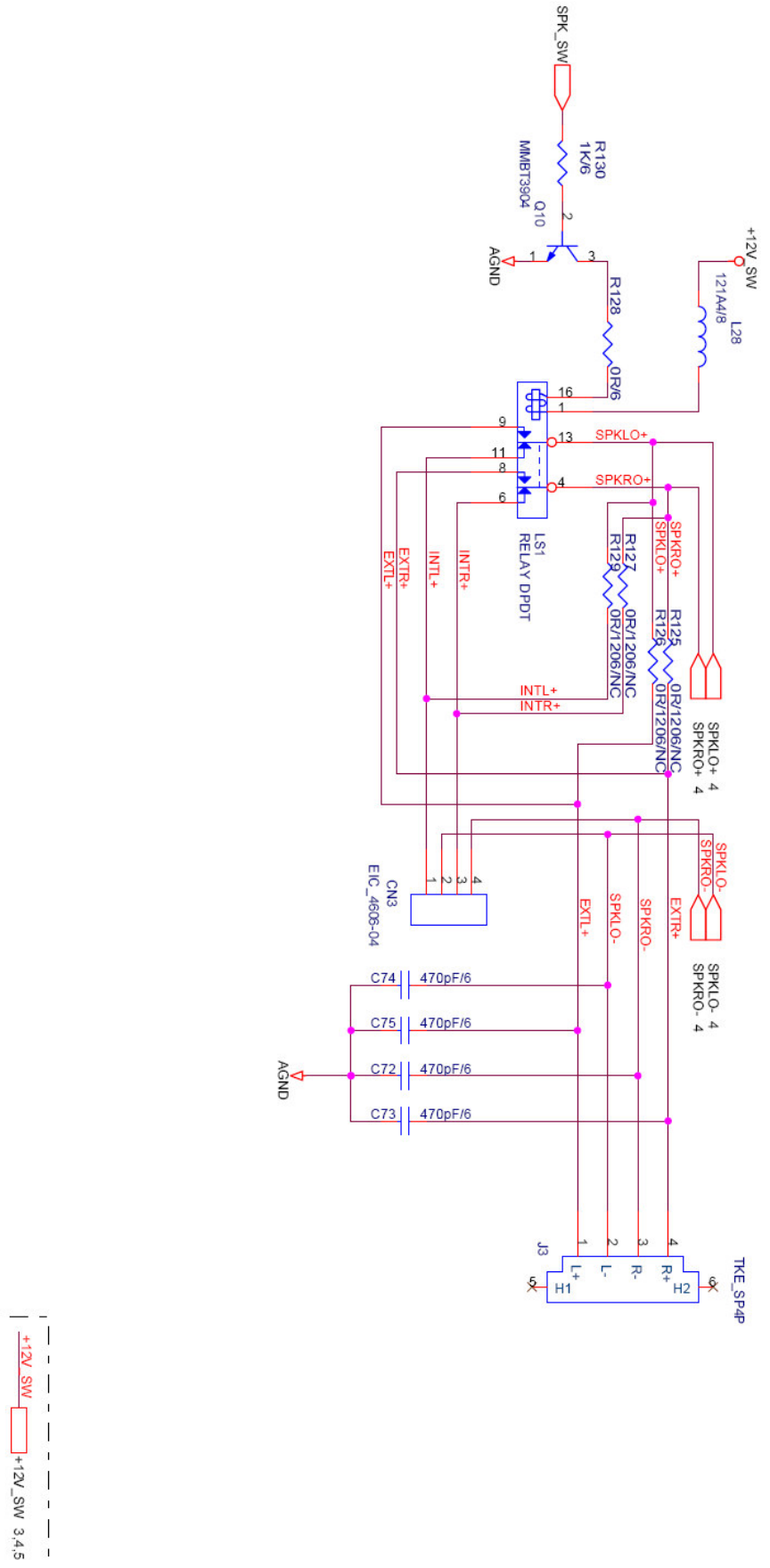
5.2 Audio AMP


U5
YDA148
AUDIO_R
AUDIO_L
AUD_GAIN1
AUD_GAIN0
AUD_NCDRC1
AUD_NCDRC0
+3.3V_ADU
VCC_AMP
+3.3AVDD_AMP
Limit
2N7002/NC
Q7
1uF < C396 < 4.7uF
50K ohm < (R87+R88) ,R90 < 500K ohm
(R87+R88)//R90 < 70K ohm
VCC_AMP
+12V_SW
+5V_SW
+3.3V_ADU
U6
AP1117ELA/TO223
ADJ/GND
VIN
VOUT
MUTE
AGND
AMP_MUTE
Q9
DTC144E
Q8
DTC144E
AMP_SLEEP
Audio_SLEEP
TP1
PROTN
CKIN
CKOUT
HEAT PAD
PVSSL
PVDDML
PVDDPL
PVSSR
PVDDMR
PVDDPR
MUTEN
SLEEPN
PLIMIT
AVDD
AVSS
VREF
PVDDREG
NCDRC0
NCDRC1
GAIN0
GAIN1
INLM
INLP
INRM
INRP
OUTML2
OUTPL2
OUTML1
OUTPL1
OUTPR2
OUTMR1
OUTPR1
OUTMR2
CASE
CASE
CASE
CASE1
LC Filter for 8 ohm
SPKLO+
SPKLO-
SPKRO+
SPKRO-
Gain0
Gain1
Total Gain
DRC0
DRC1
Mode
(Normal)
Non-clip
DRC1
DRC2

5.3.1 GPIO & Power

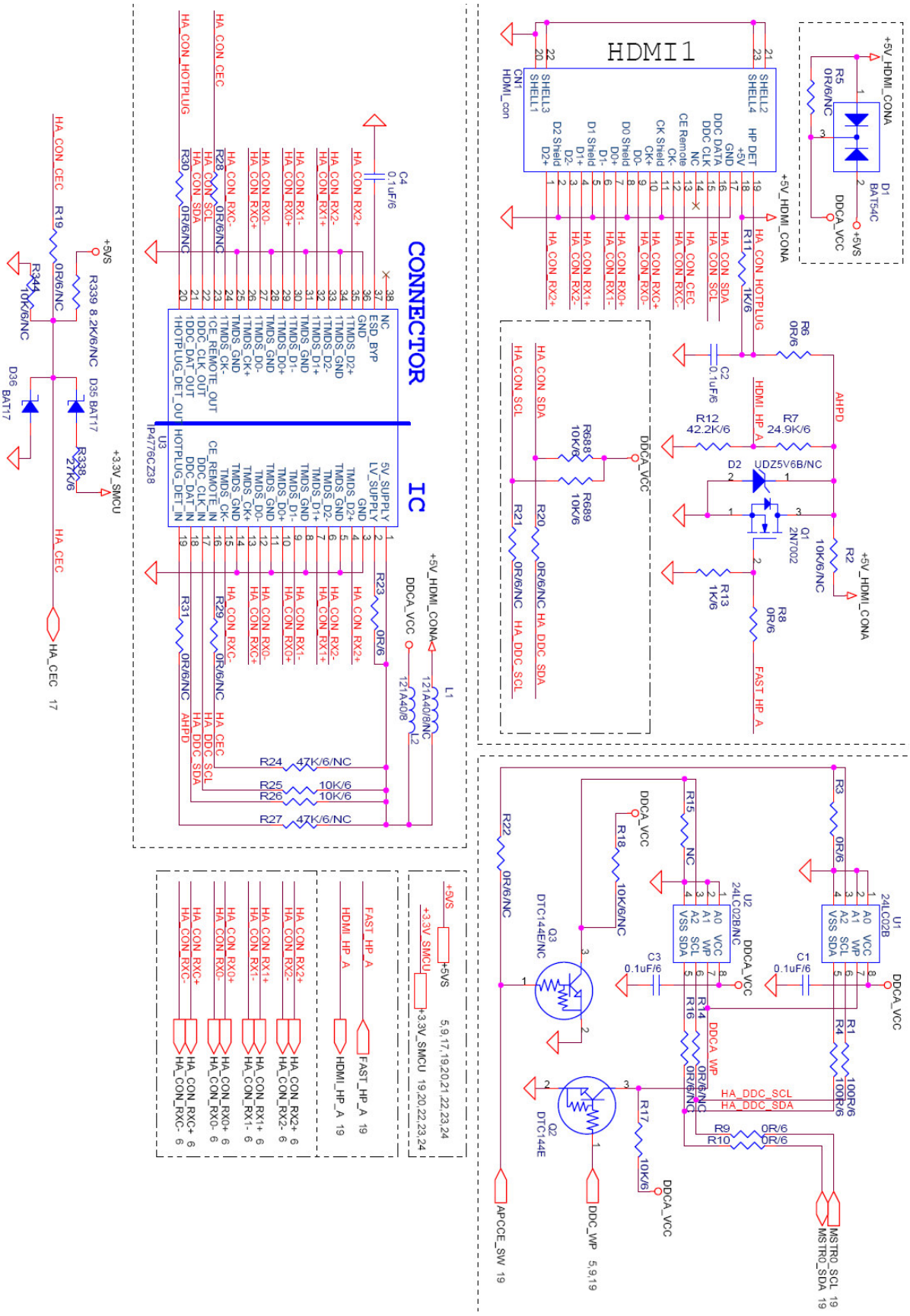


5.3.2 GPIO & Power

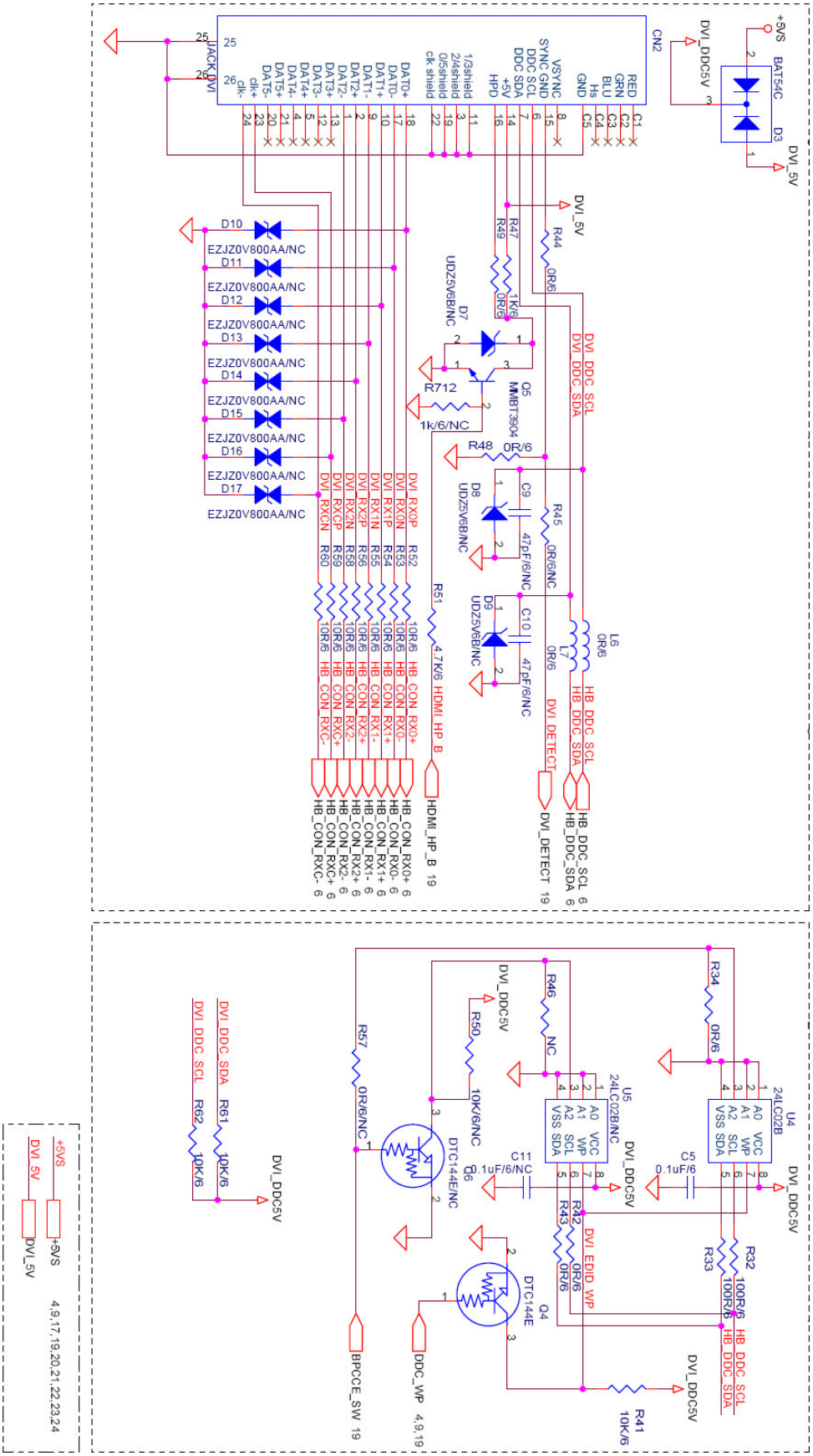


6. Main board

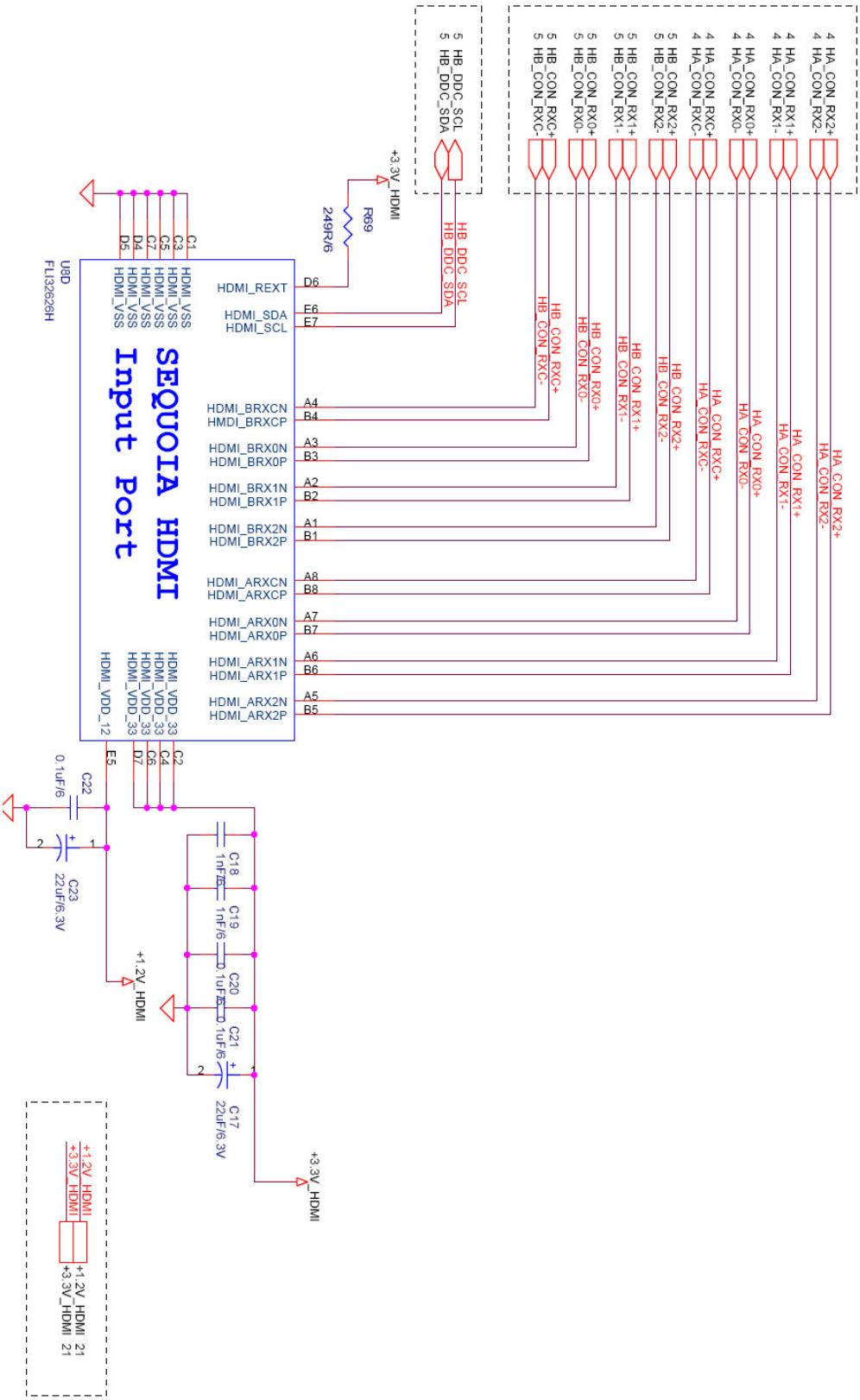
6.1 HDMI 1 Input



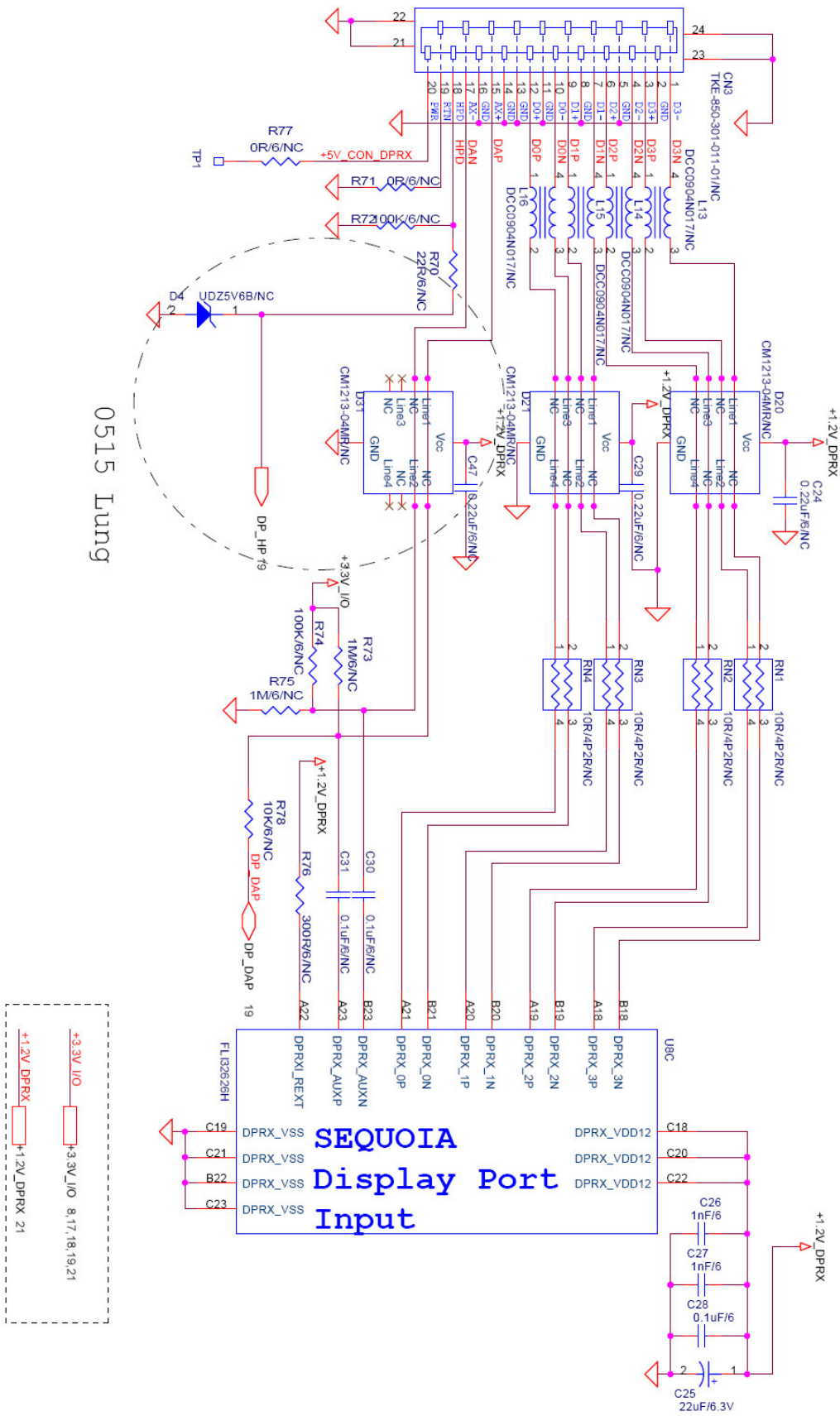
6.2 DVI Input


CN2
JACK_DVI
BAT54C
D3
DVI_DDC5V
DVI_5V
+5VS
D10
D11
D12
D13
D14
D15
D16
D17
EZJZ0V800AA/NC
UDZ5V6B/NC
D7
D8
D9
MMBT3904
Q5
R712
1k/6/NC
R44
R45
R46
R47
R48
R49
R50
R51
R52
R53
R54
R55
R56
R57
R58
R59
R60
R61
R62
0R/6
1K/6
0R/6/NC
4.7K/6
10R/6
10K/6
10K/6/NC
C9
C10
47pF/6/NC
L6
L7
DVI_DETECT
HDMI_HP_B
HB_DDC_SCL
HB_DDC_SDA
DVI_DDC_SCL
DVI_DDC_SDA
DVI_RX0P
DVI_RX0N
DVI_RX1P
DVI_RX1N
DVI_RX2P
DVI_RX2N
DVI_RXCP
DVI_RXCN
HB_CON_RX0+
HB_CON_RX0-
HB_CON_RX1+
HB_CON_RX1-
HB_CON_RX2+
HB_CON_RX2-
HB_CON_RXC+
HB_CON_RXC-
U4
U5
24LC02B
24LC02B/NC
A0
A1
A2
VSS
VCC
WP
SCL
SDA
C5
C6
C11
0.1uF/6
0.1uF/6/NC
R32
R33
R34
R41
R42
R43
100R/6
0R/6
10K/6
DTC144E/NC
DTC144E
Q4
DVI_EDID_WP
DDC_WP
BPCCE_SW
4,9,19
19
6
+5VS
DVI_5V
4,9,17,18,20,21,22,23,24

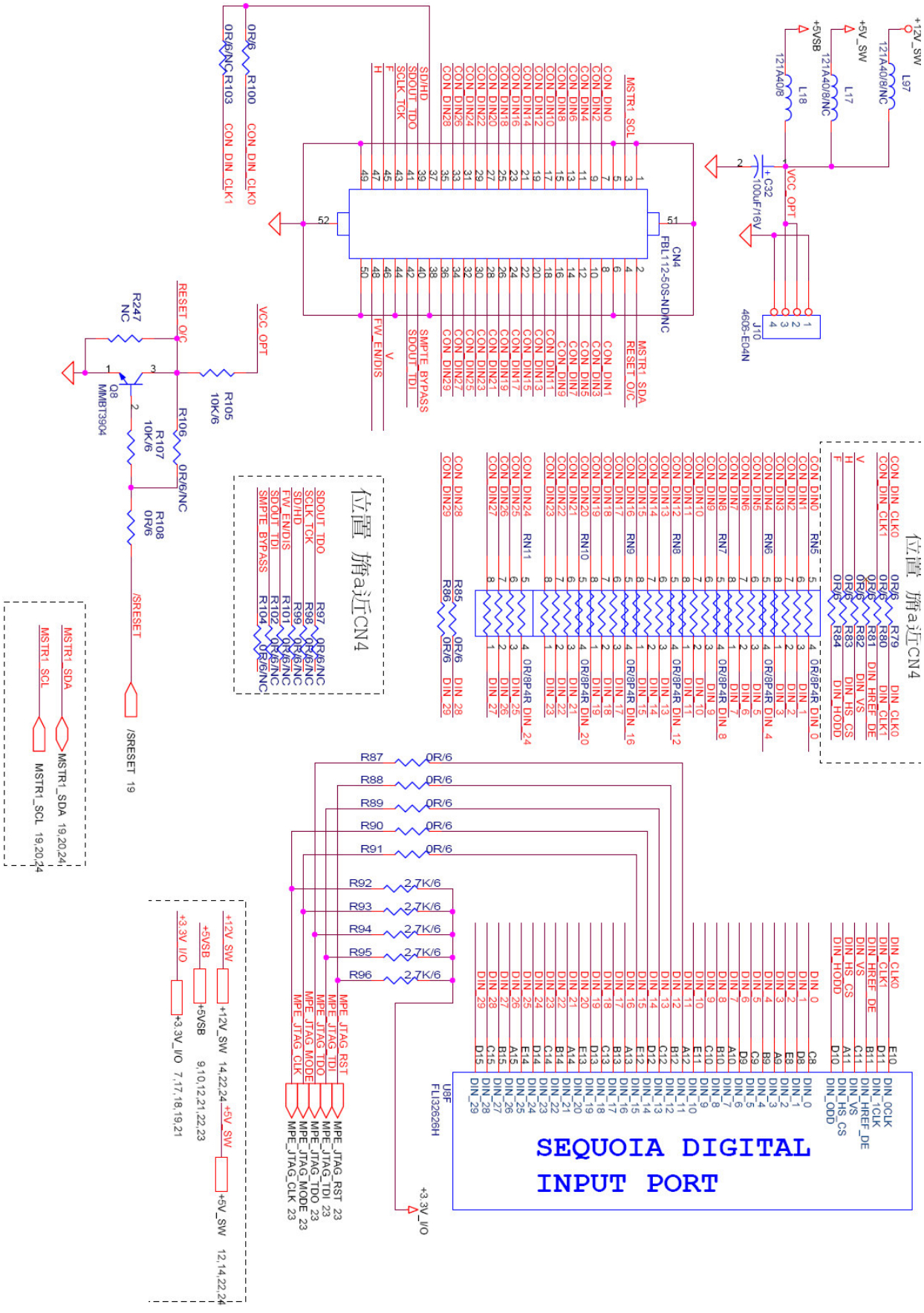
6.3 Sequoia HDMI Input Port



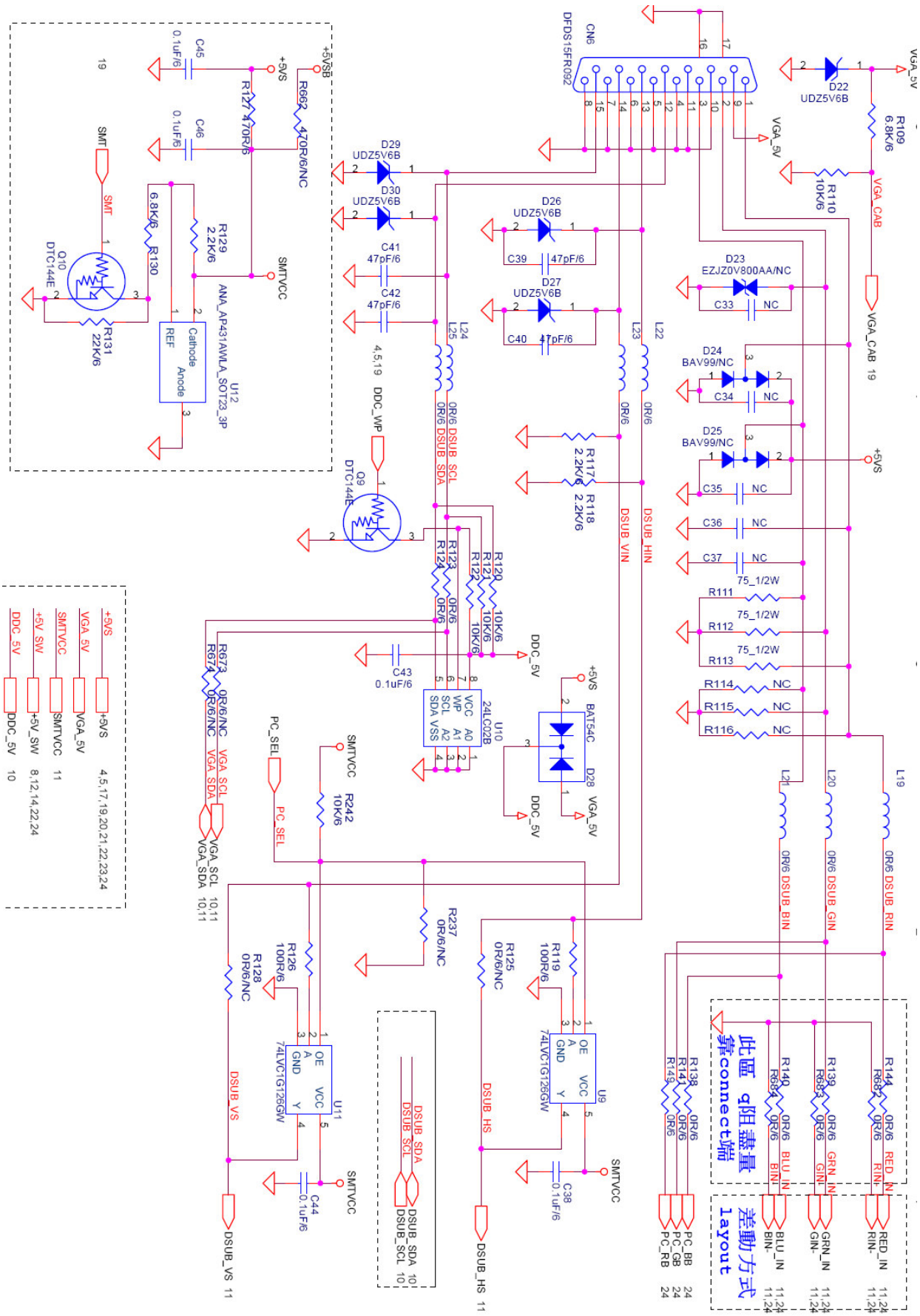
6.4 Sequoia Display Port Input



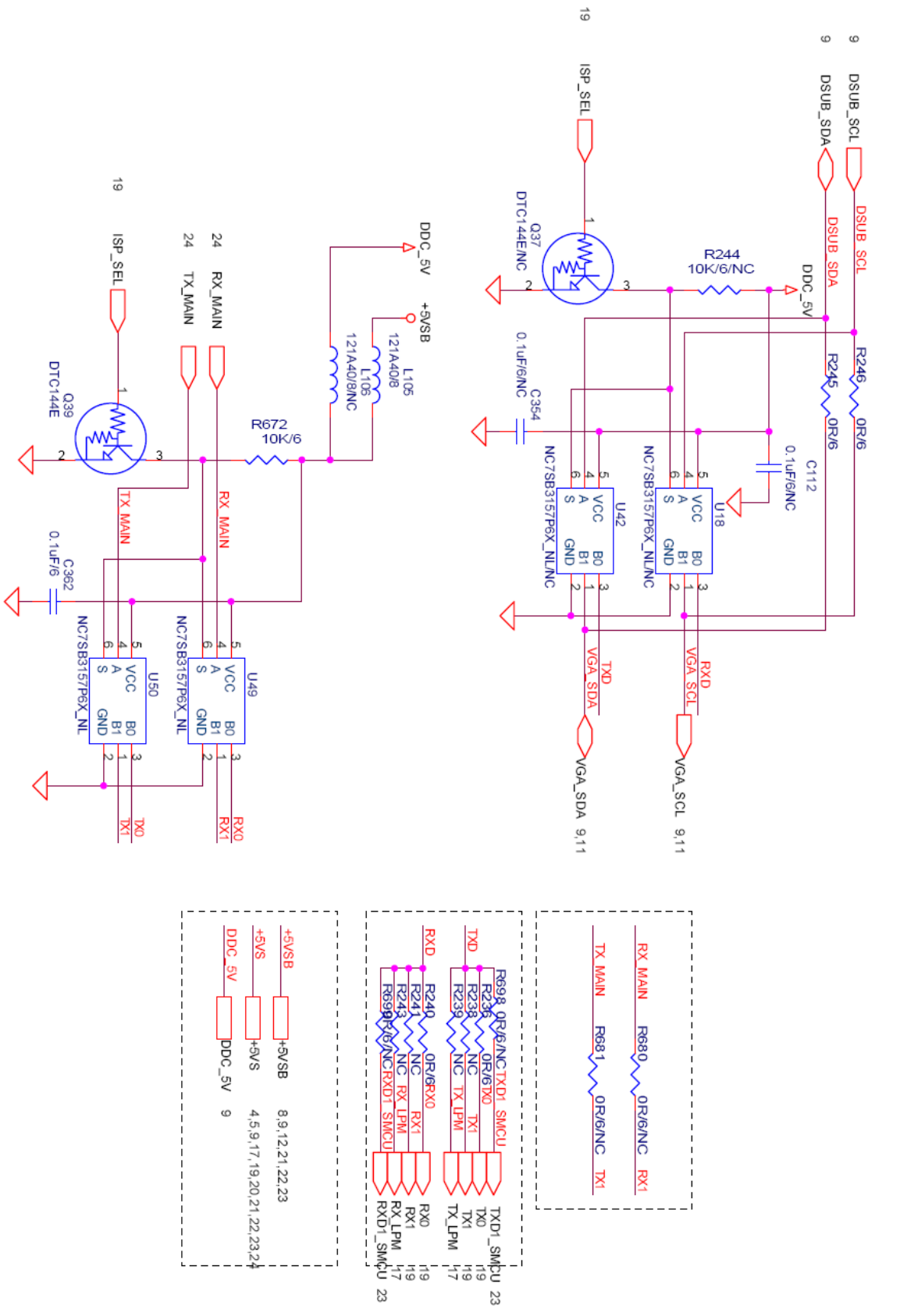
6.5 Sequoia Digital Port Input



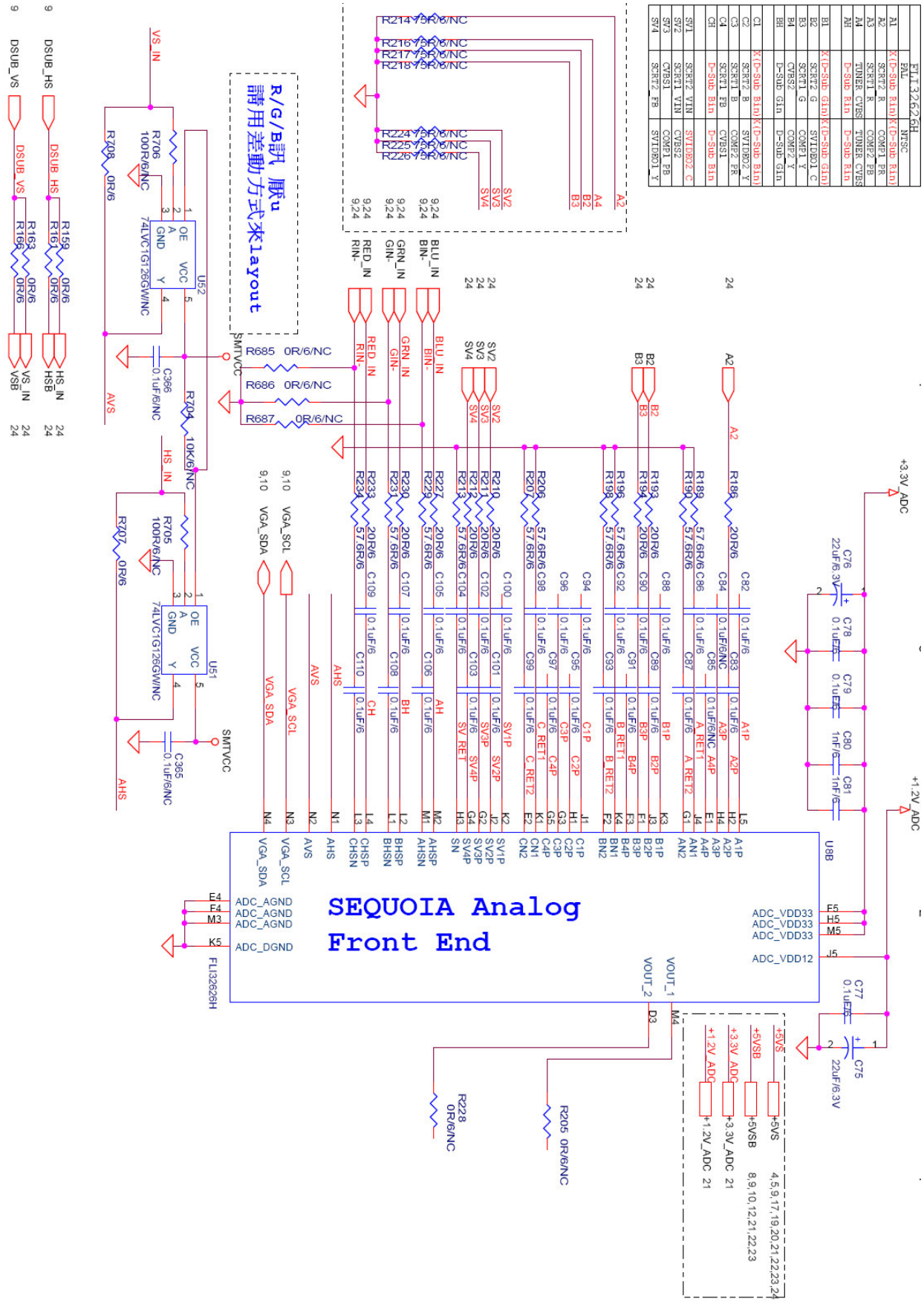
6.6 VGA Input


CN6
DFDS15FR092
D22
UDZ5V6B
R109
6.8K/6
R110
10K/6
VGA_5V
VGA_CAB
D23
EZJZ0V800AA/NC
D24
BAV99/NC
D25
BAV99/NC
C33
C34
C35
C36
C37
NC
75_1/2W
R111
R112
R113
R114
R115
R116
D29
UDZ5V6B
D30
UDZ5V6B
D26
UDZ5V6B
D27
UDZ5V6B
C39
C40
47pF/6
C41
C42
R117
R118
2.2K/6
L19
L20
L21
L22
L23
L24
L25
0R/6
0R/6 DSUB_RIN
0R/6 DSUB_GIN
0R/6 DSUB_BIN
DSUB_HIN
DSUB_VIN
DSUB_SCL
DSUB_SDA
+5VS
+5VSB
R127
470R/6
R662
470R/6/NC
C45
C46
0.1uF/6
SMT
Q10
DTC144E
R129
2.2K/6
R130
6.8K/6
R131
22K/6
U12
ANA_AP431AWLA_SOT23_3P
Cathode
Anode
REF
SMTVCC
Q9
DTC144E
DDC_WP
4,5,19
R123
R124
R125
R126
R128
R237
R673
R674
0R/6
0R/6/NC
10K/6
R242
C43
0.1uF/6
U10
24LC02B
VCC
WP
SCL
SDA
A0
A1
A2
VSS
BAT54C
D28
VGA_5V
DDC_5V
PC_SEL
VGA_SCL
VGA_SDA
10,11
100R/6
U11
U9
74LVC1G126GW
OE
A
GND
VCC
Y
C38
C44
0.1uF/6
DSUB_VS
DSUB_HS
DSUB_SDA
DSUB_SCL
10
11
R138
R139
R140
R144
R149
R681
R682
R683
R684
R685
BLU_IN
GRN_IN
RED_IN
BIN-
GIN-
RIN-
PC_BB
PC_GB
PC_RB
24
11,24
此區 q阻盡量
靠connect端
差動方式
layout
+5VS
VGA_5V
SMTVCC
+5V_SW
DDC_5V
4,5,17,19,20,21,22,23,24
11
8,12,14,22,24
10

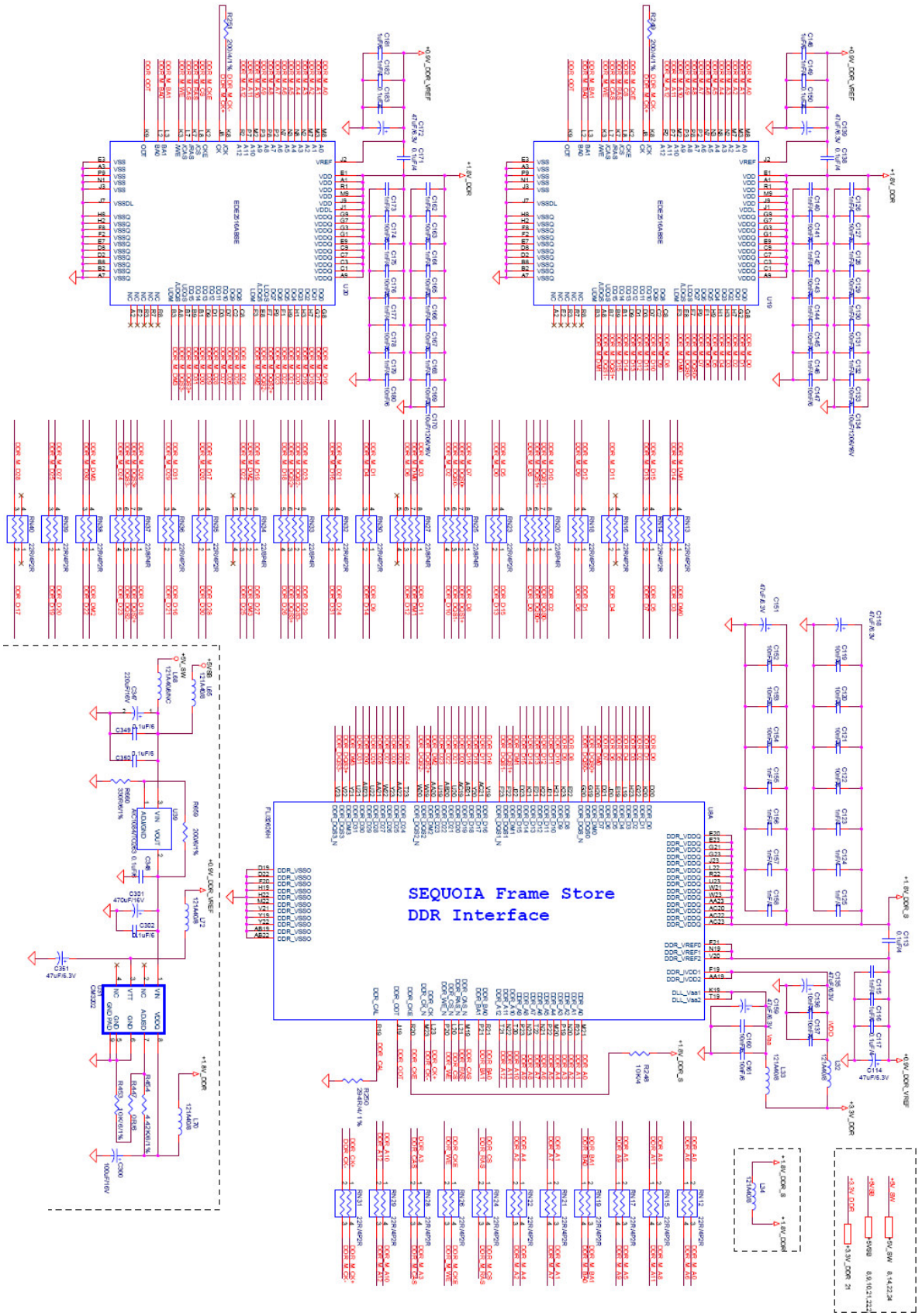
6.7 RGB MUX


DSUB_SCL
DSUB_SDA
ISP_SEL
Q37
DTC144E/NC
R244
10K/6/NC
R246
0R/6
R245
0R/6
C112
0.1uF/6/NC
C354
0.1uF/6/NC
U18
U42
NC7SB3157P6X_NL/NC
VGA_SDA
VGA_SCL
TXD
RXD
DDC_5V
+5VSB
L105
121A40/8
L106
121A40/8/NC
R672
10K/6
Q39
DTC144E
TX_MAIN
RX_MAIN
C362
0.1uF/6
U49
U50
NC7SB157P6X_NL
RX_MAIN
R680
0R/6/NC
RX1
TX_MAIN
R681
0R/6/NC
TX1
TXD
R698
0R/6/NC
TXD1_SMCU
R236
0R/6
TX0
R238
NC
TX1
R239
NC
TX_LPM
RXD
R240
0R/6
RX0
R241
NC
RX1
R243
NC
RX_LPM
R699
0R/6/NC
RXD1_SMCU
+5VSB
+5VS
DDC_5V
8,9,12,21,22,23
4,5,9,17,19,20,21,22,23,24
9

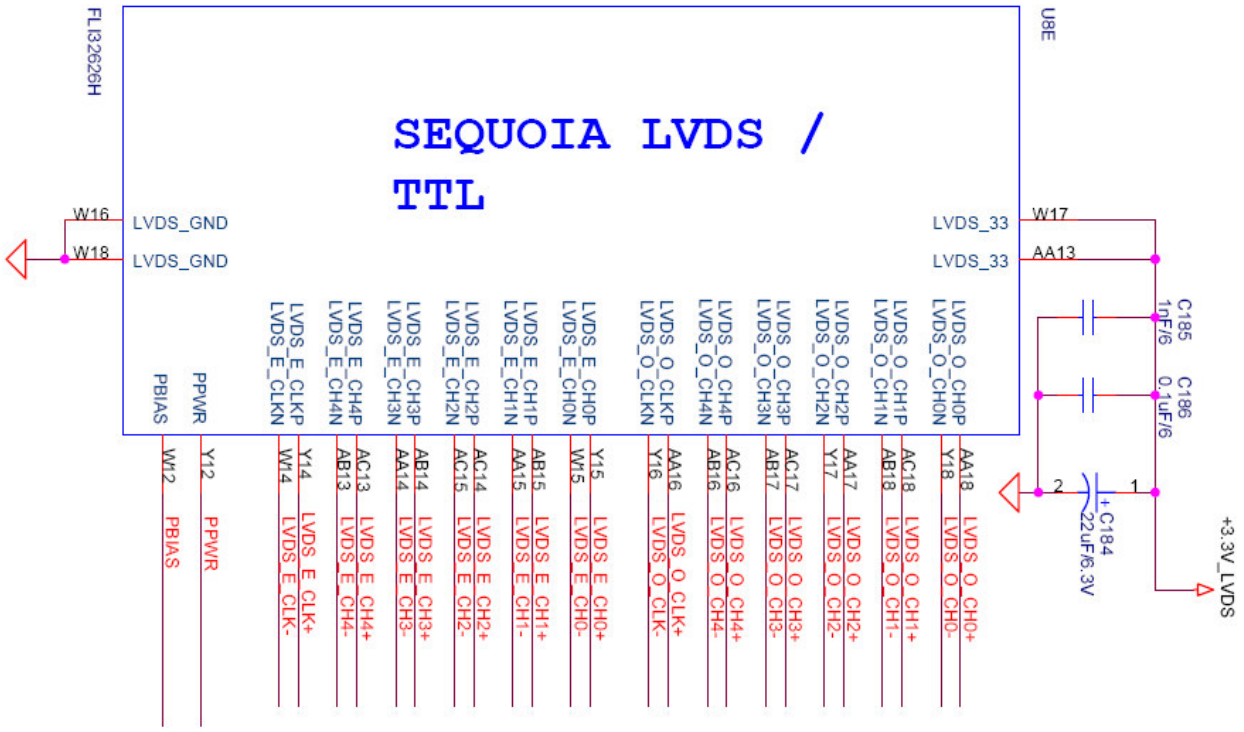
6.8 Sequoia Analog Front End

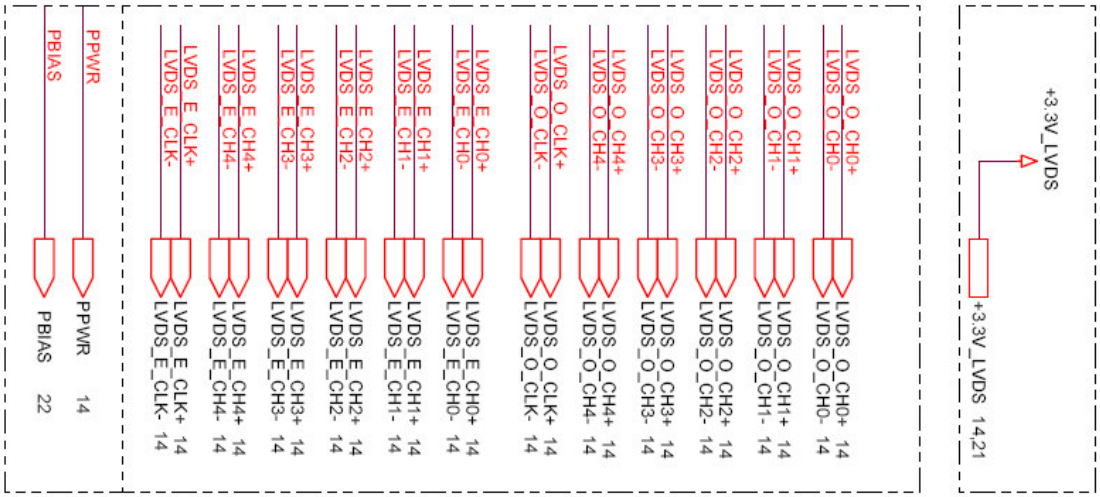


6.9 Sequoia Frame Store DDR Interface

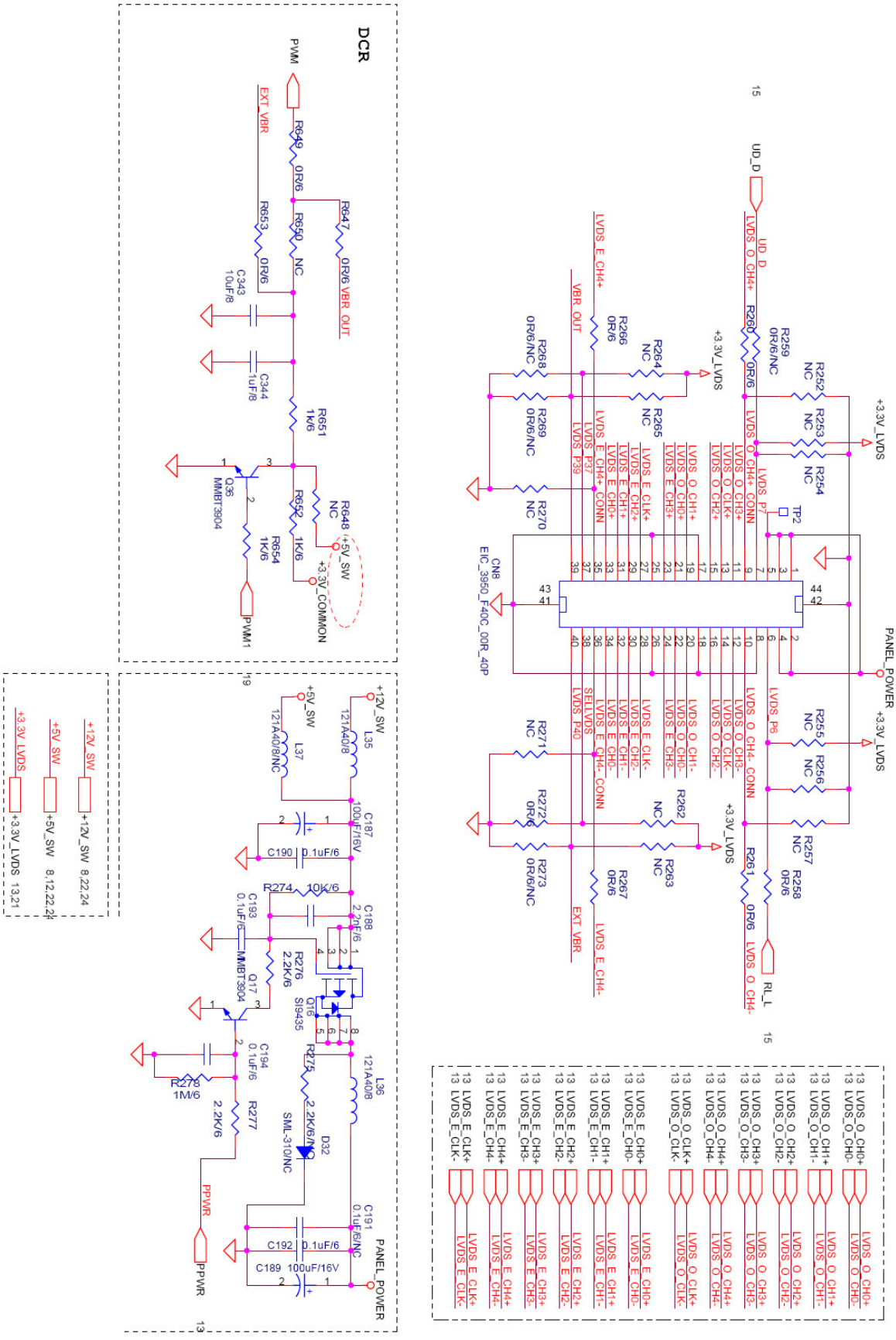


6.10 Sequoia LVDS / TTL

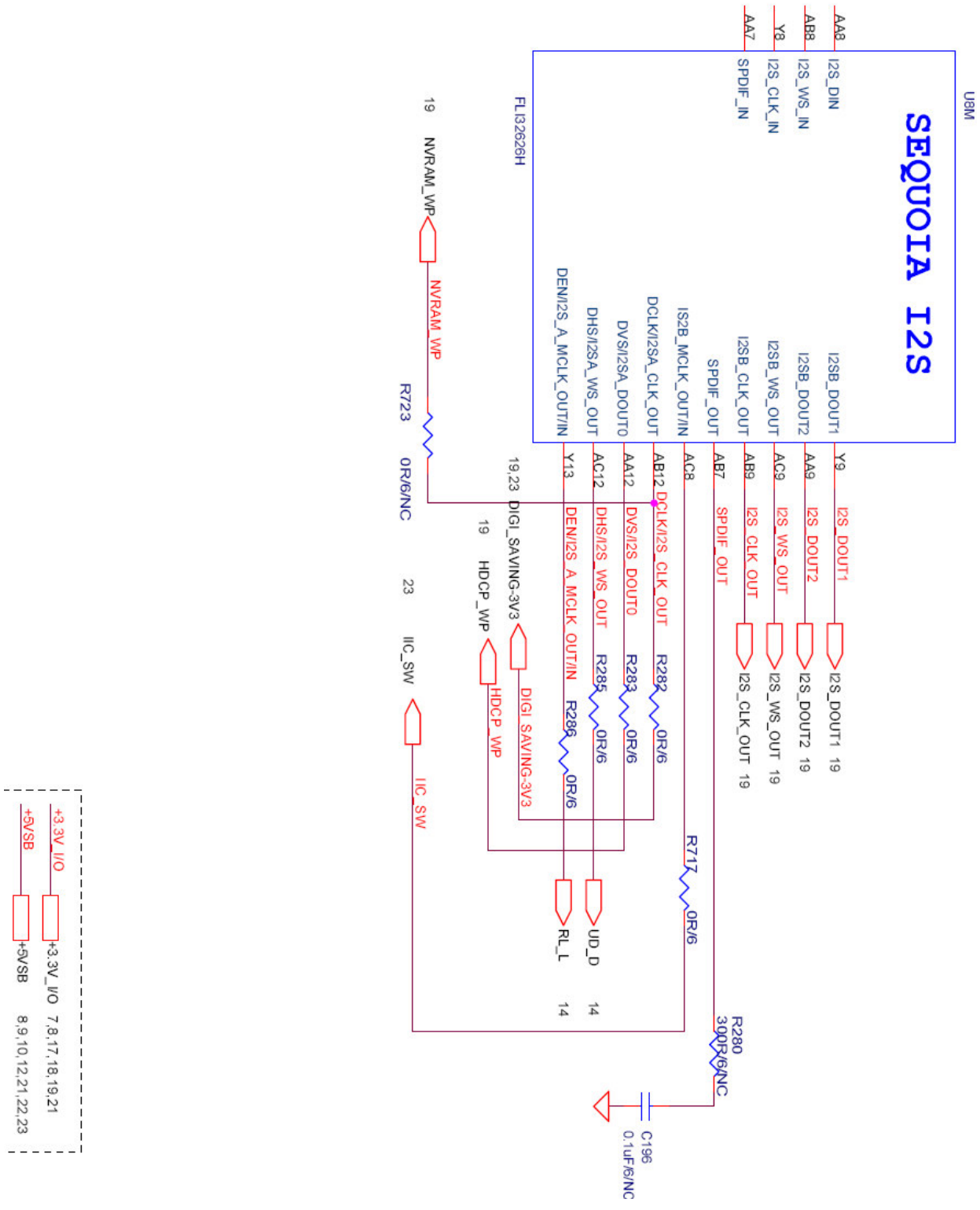




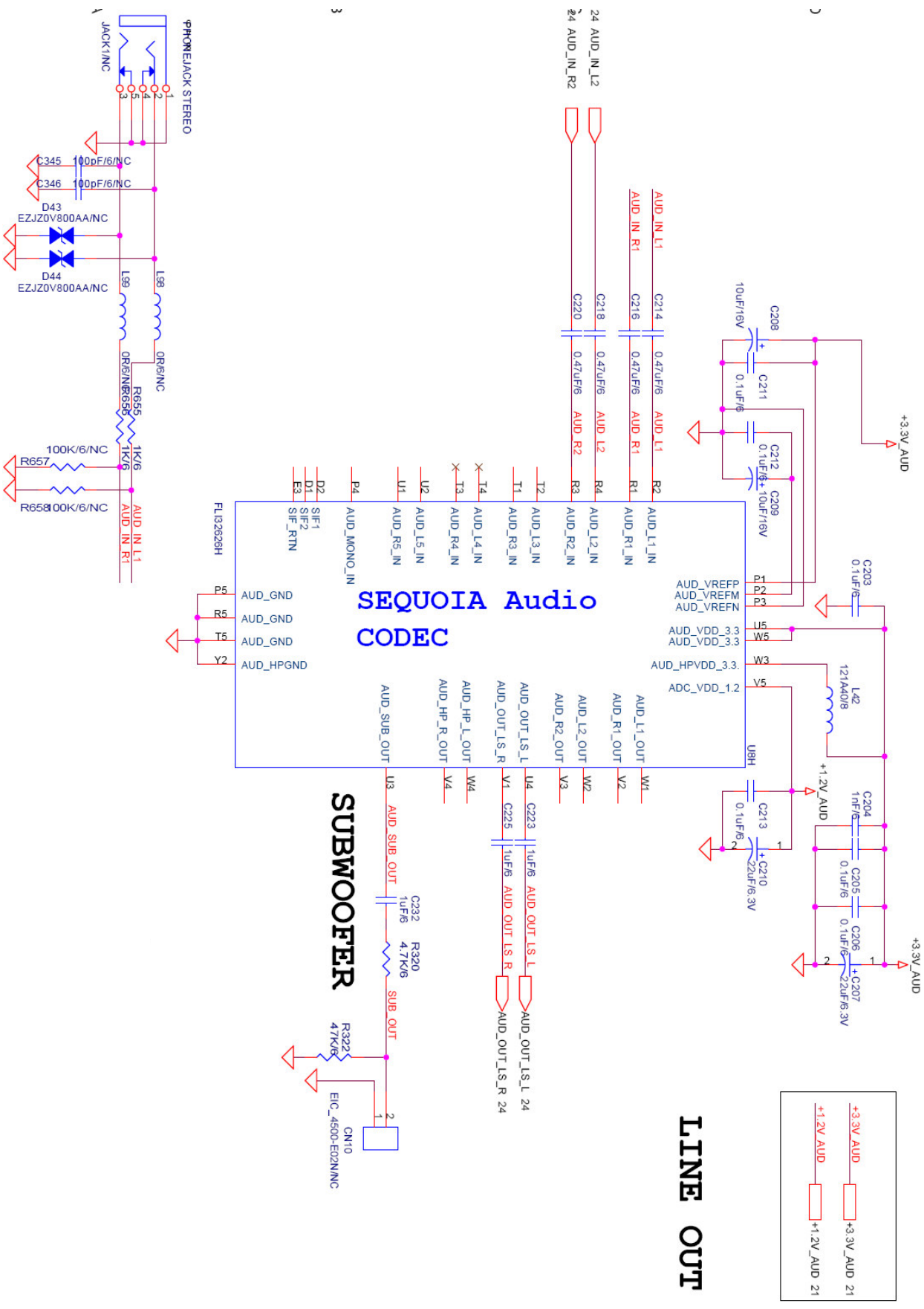
6.11 Panel Interface



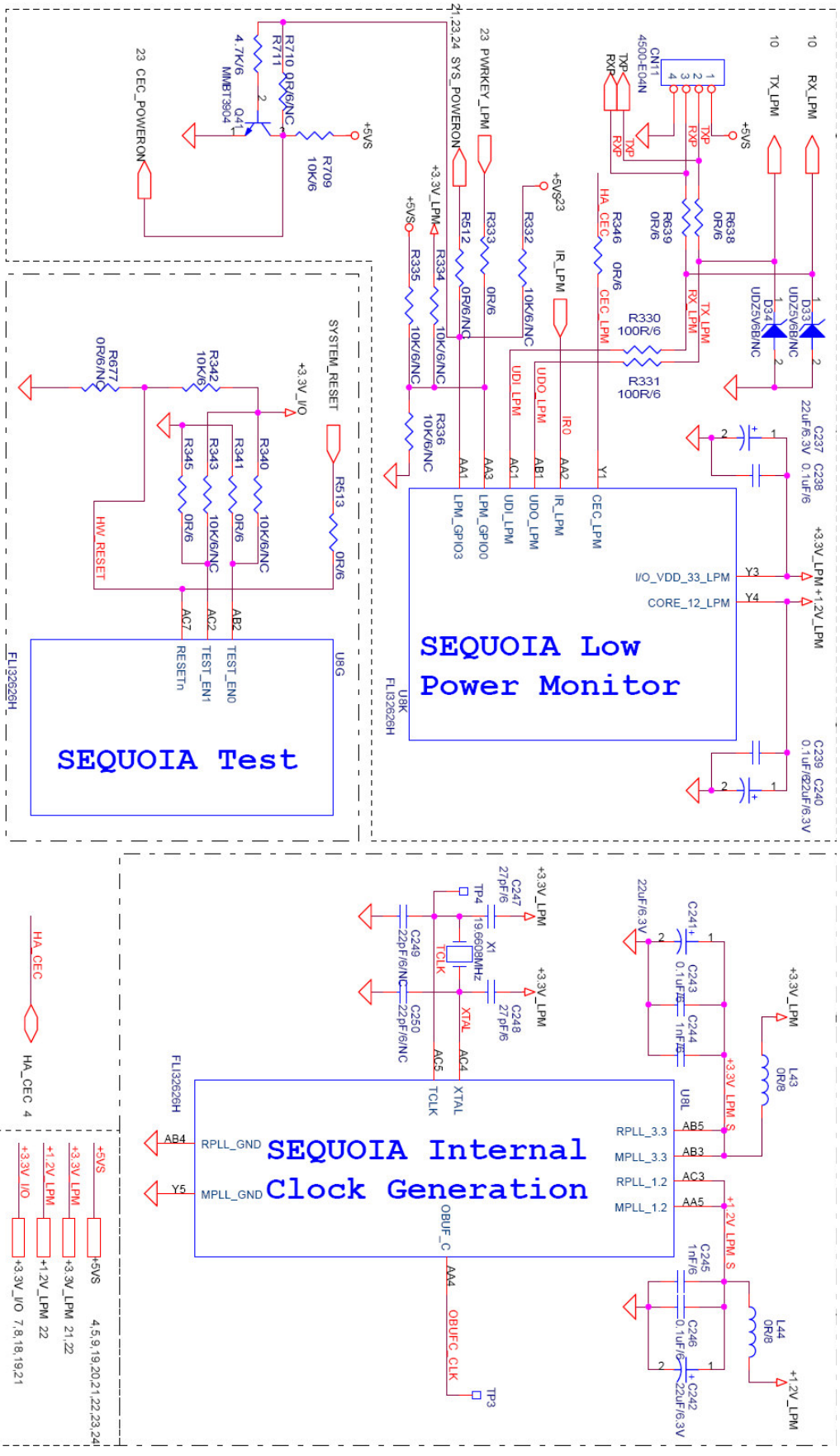
6.12 Sequoia I2S



6.13 Sequoia Audio Codec

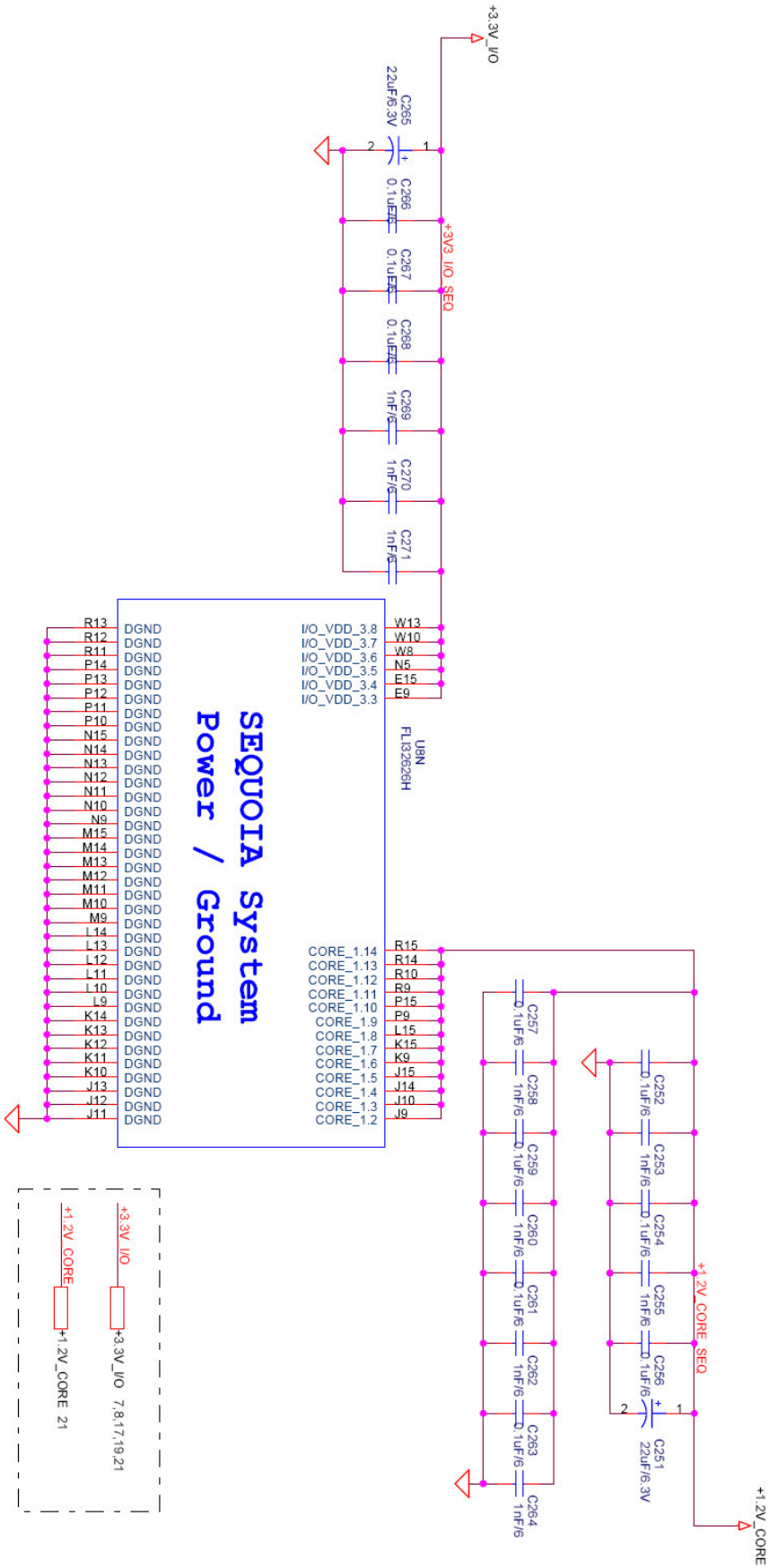


6.14 Low Power Monitor

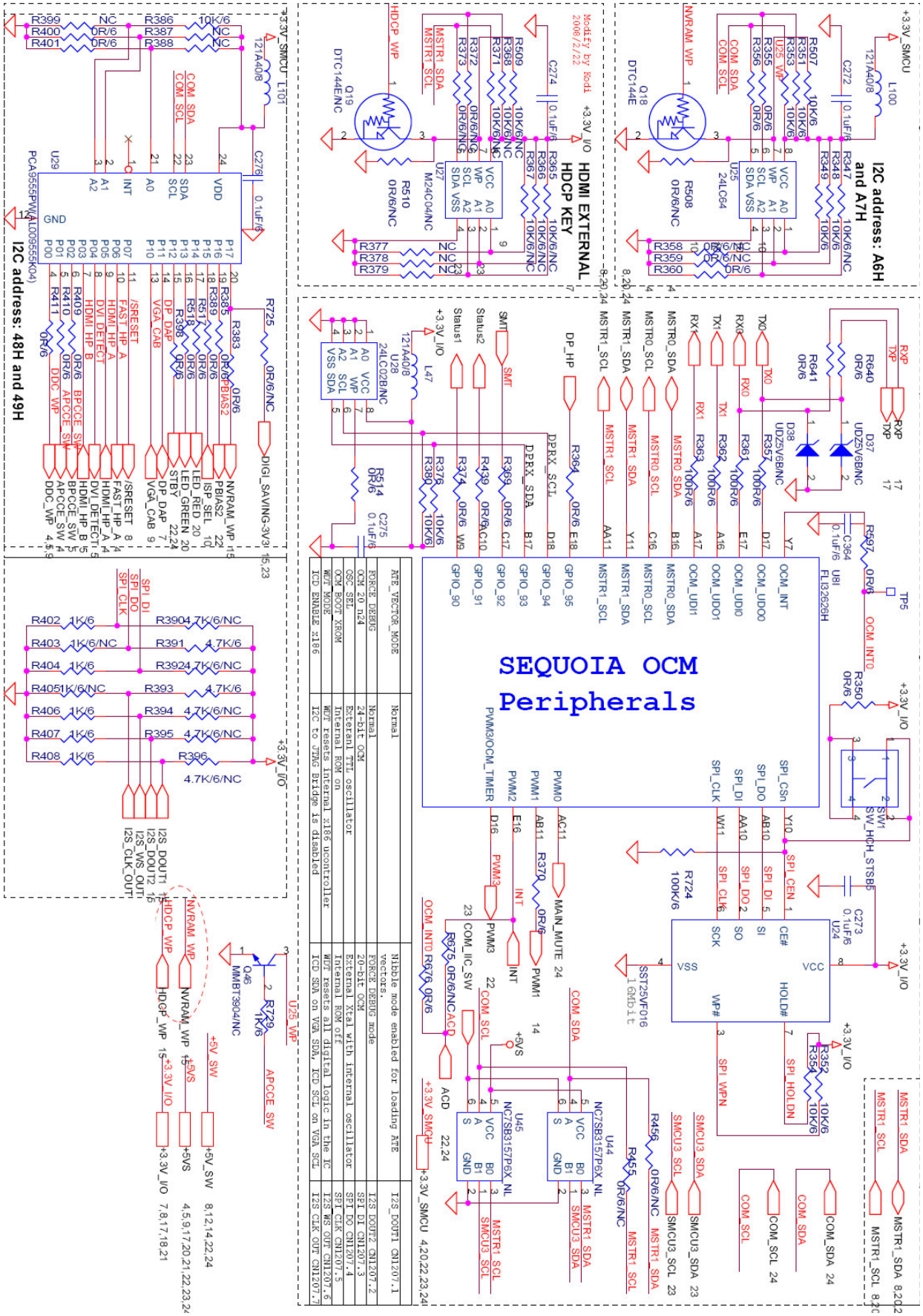


TEST_EN1	TEST_EN0	FUNCTION
0	0	Regular mission mode with POR delayed output tied to internal Resetn
0	1	Regular mission mode with POR non-delayed output tied to internal RESETn (For ATE vectors)
1	0	JTAG boundary scan enable. 5-additional pins become enabled for JTAG
1	1	SCAN is enabled here and ALTERNATE(TBD) pad is used as internal RESETn substitute

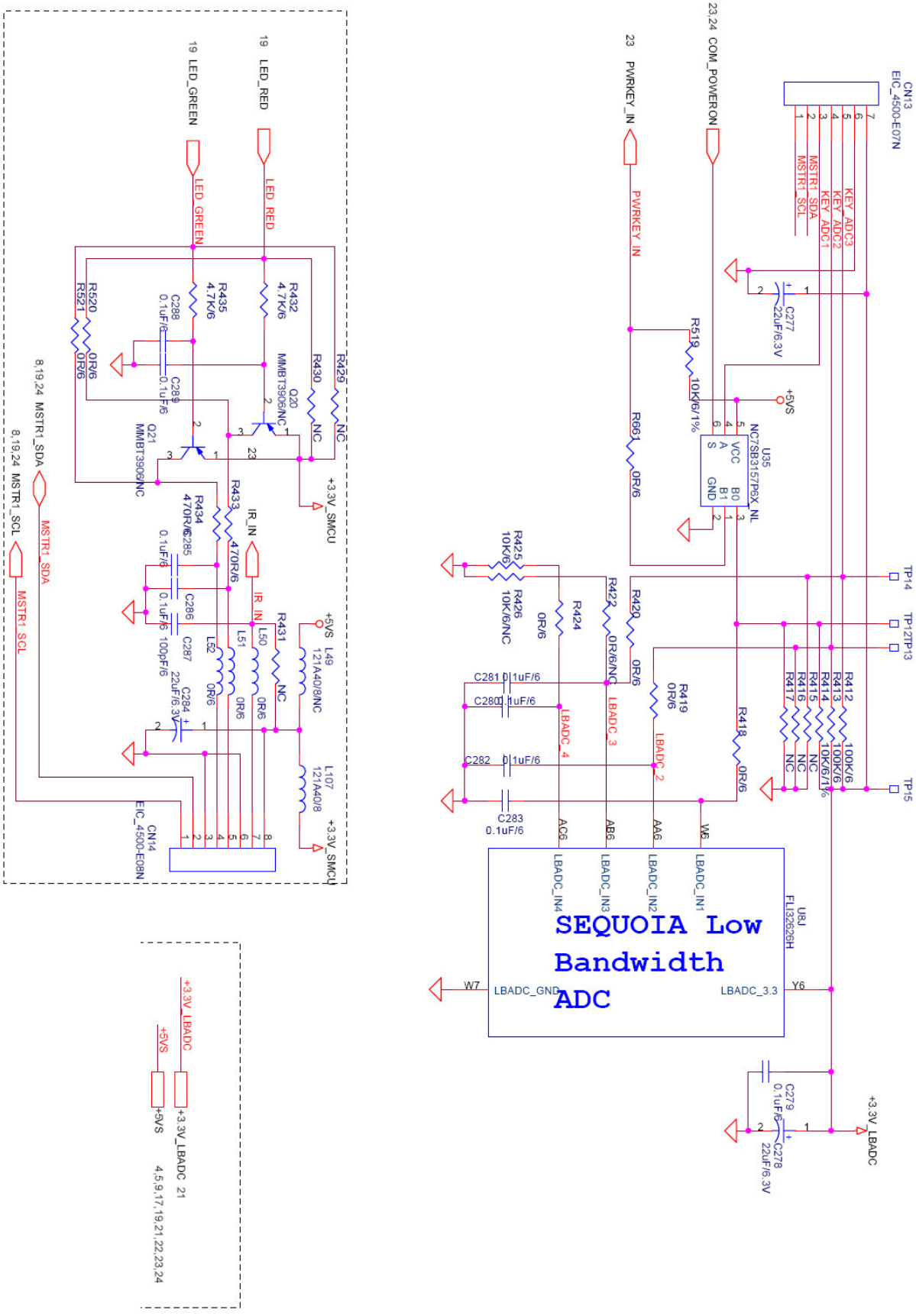
6.15 Sequoia System Power / Ground



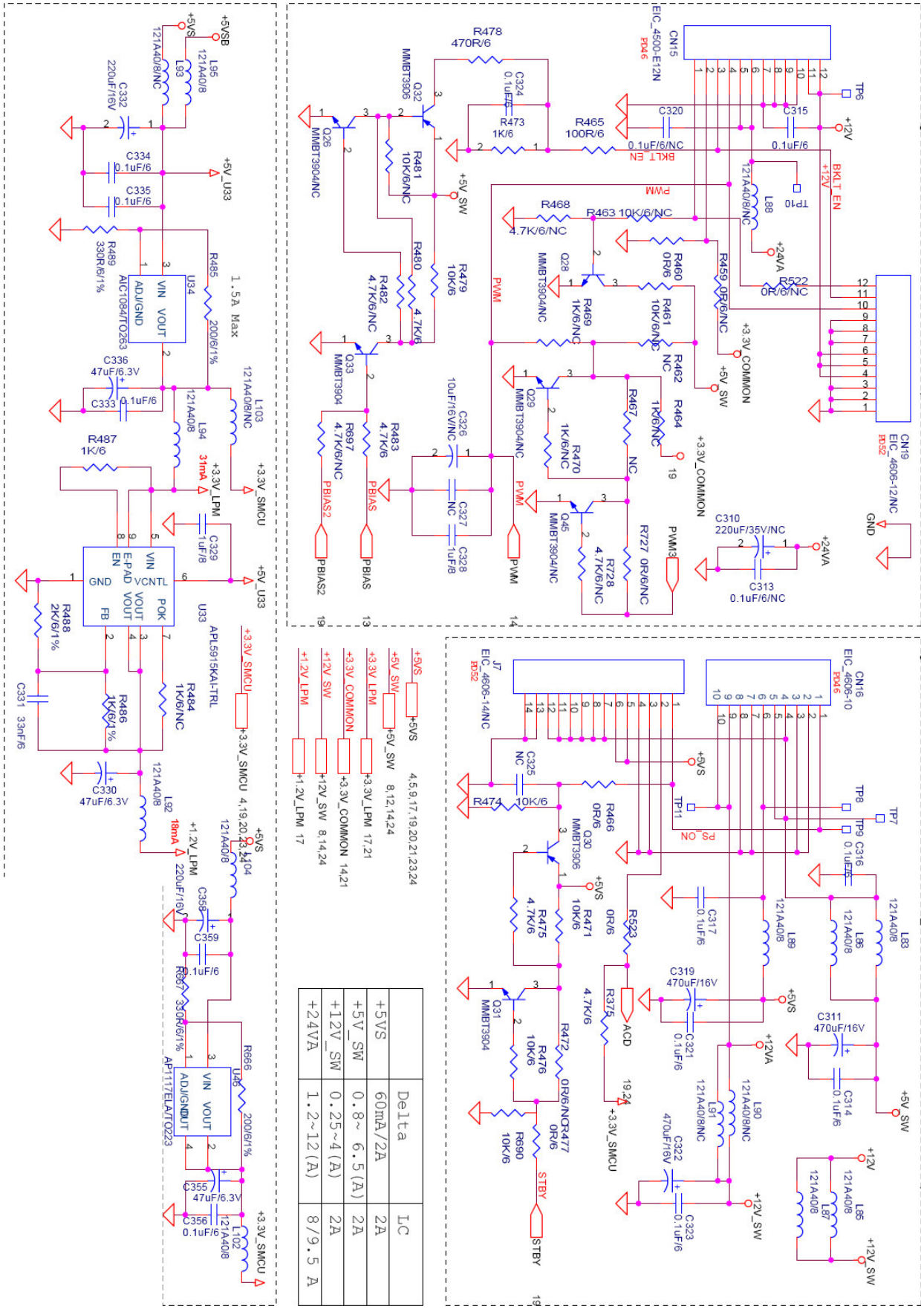
6.16 Sequoia OCM Peripherals



6.17 Sequoia Low Bandwidth ADC

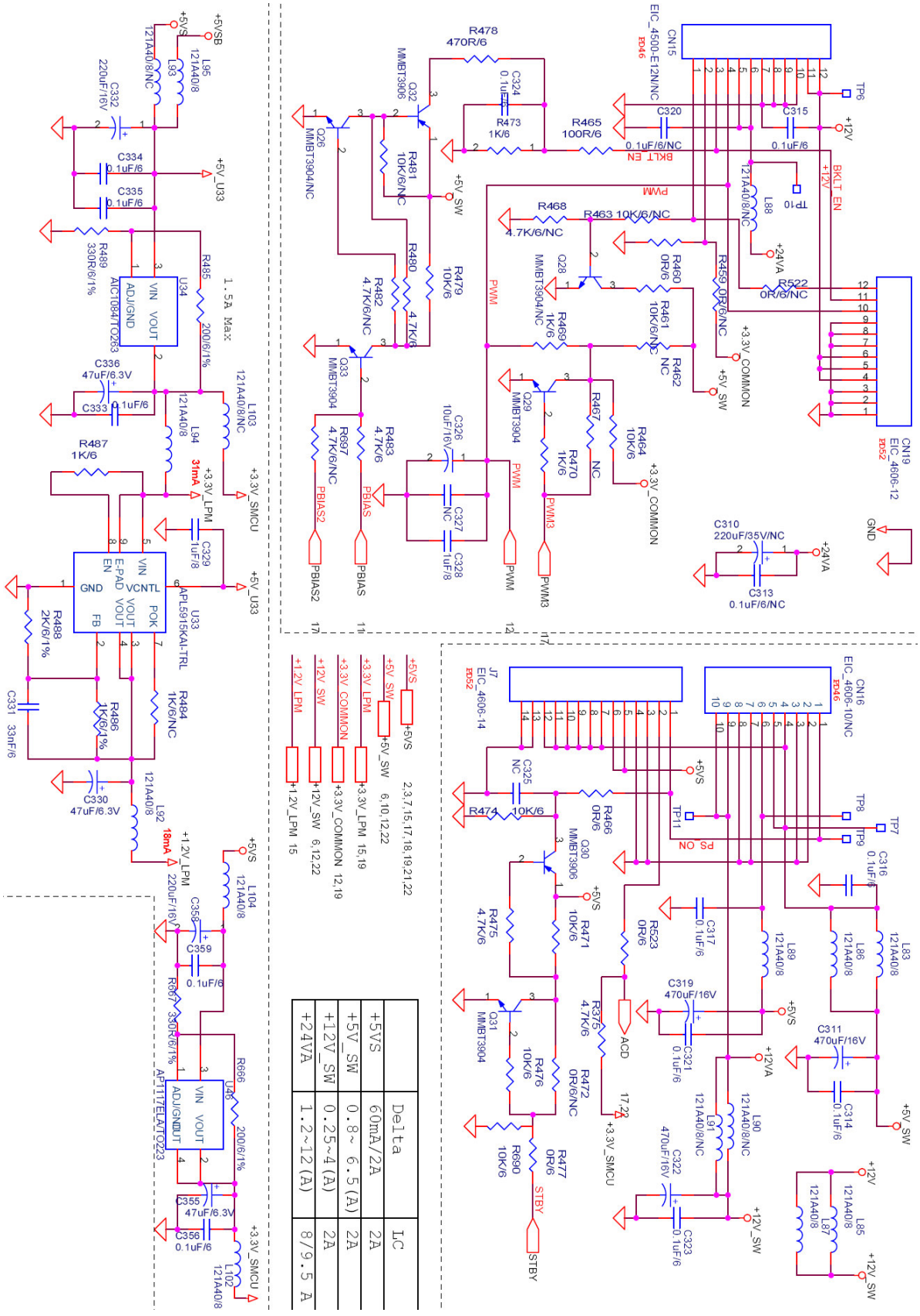


6.18 Power Sequoia



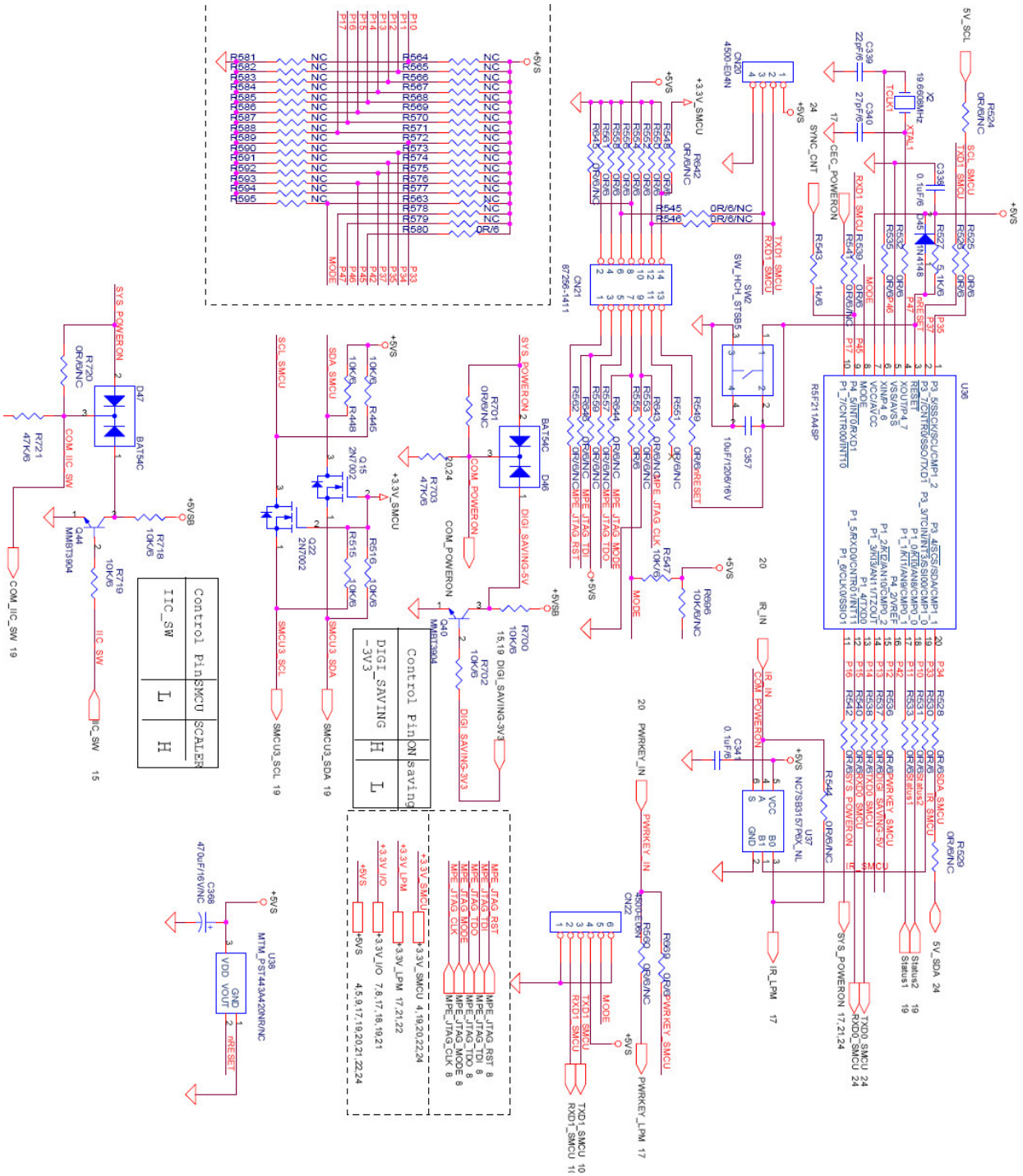
	Delta	LC
+5VS	60mA/2A	2A
+5V_SW	0.8~ 6.5(A)	2A
+12V_SW	0.25~4(A)	2A
+24VA	1.2~12(A)	8/9.5 A

6.19 Power System

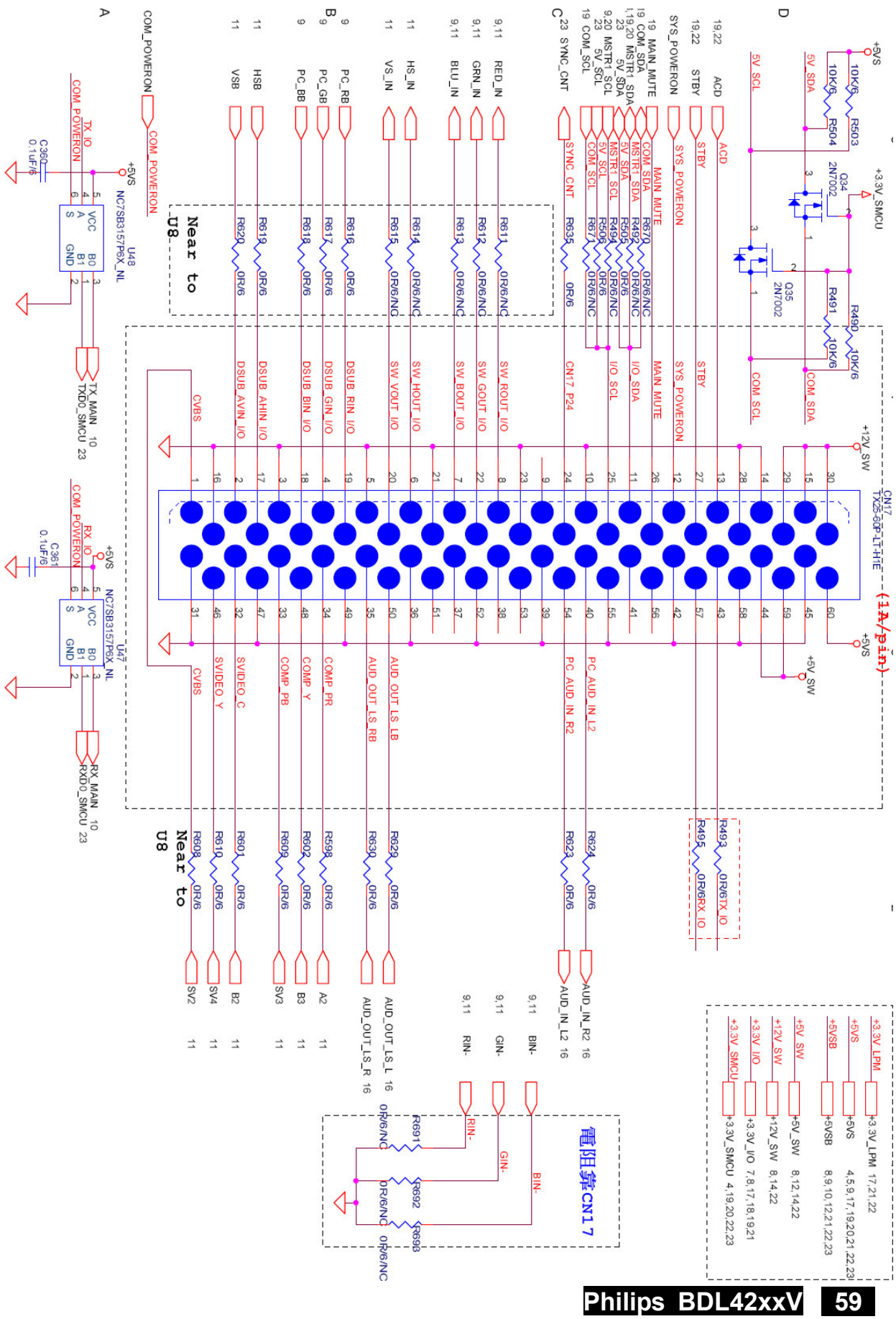


	Delta	IC
+5VS	60mA/2A	2A
+5V_SW	0.8~ 6.5(A)	2A
+12V_SW	0.25~4(A)	2A
+24VA	1.2~12(A)	8/9.5 A

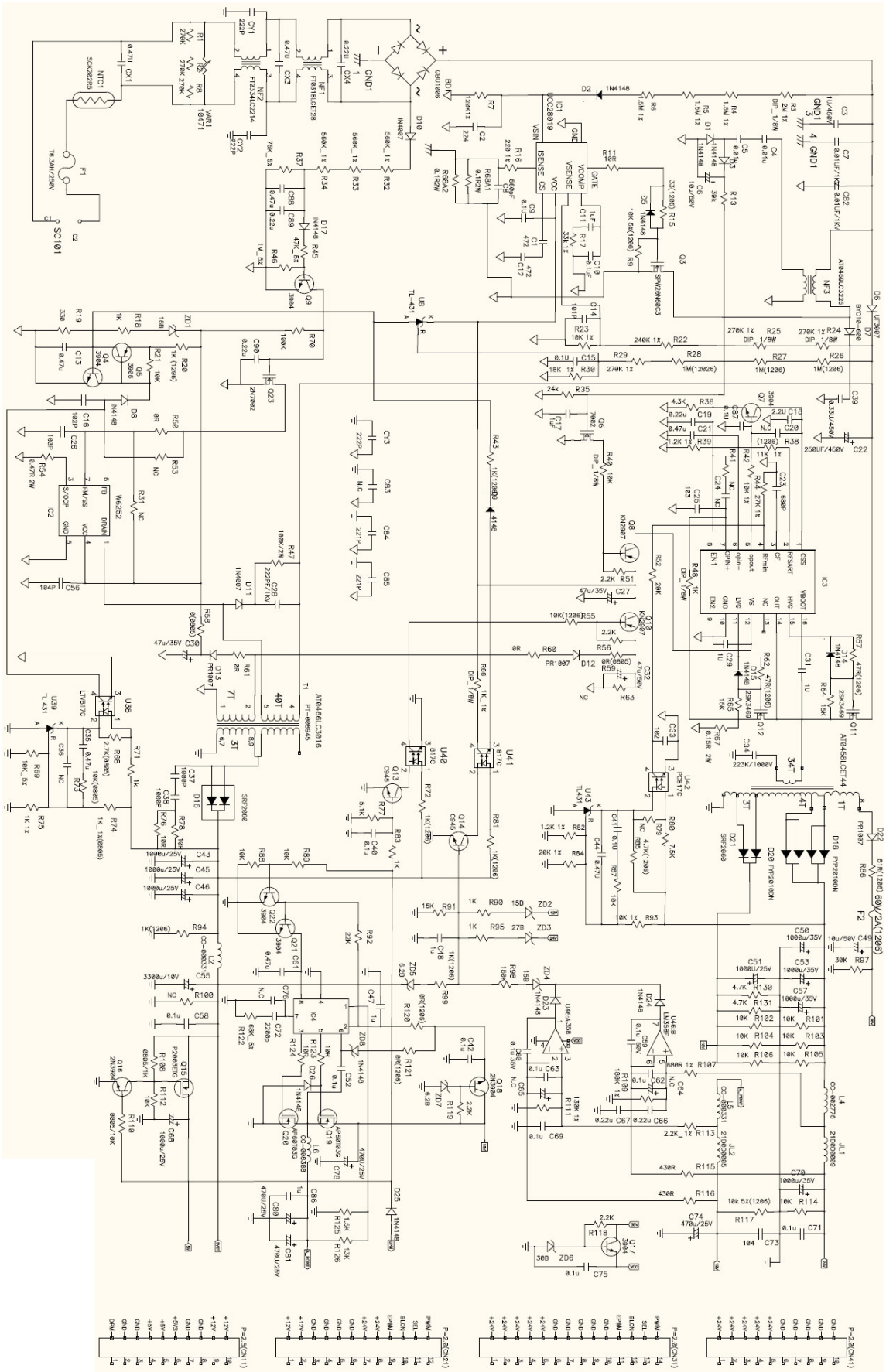
6.20 SMCU



6.21 Board to Board Connect



7. Power board

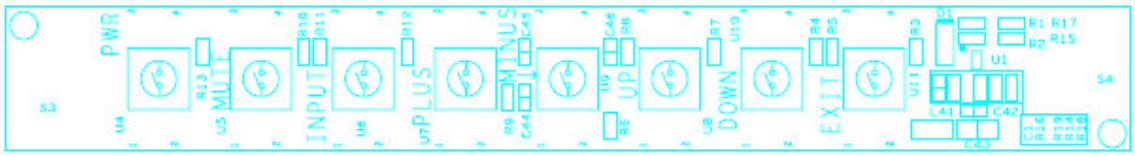


LAYOUT SIDE VIEW

Index of this chapter:

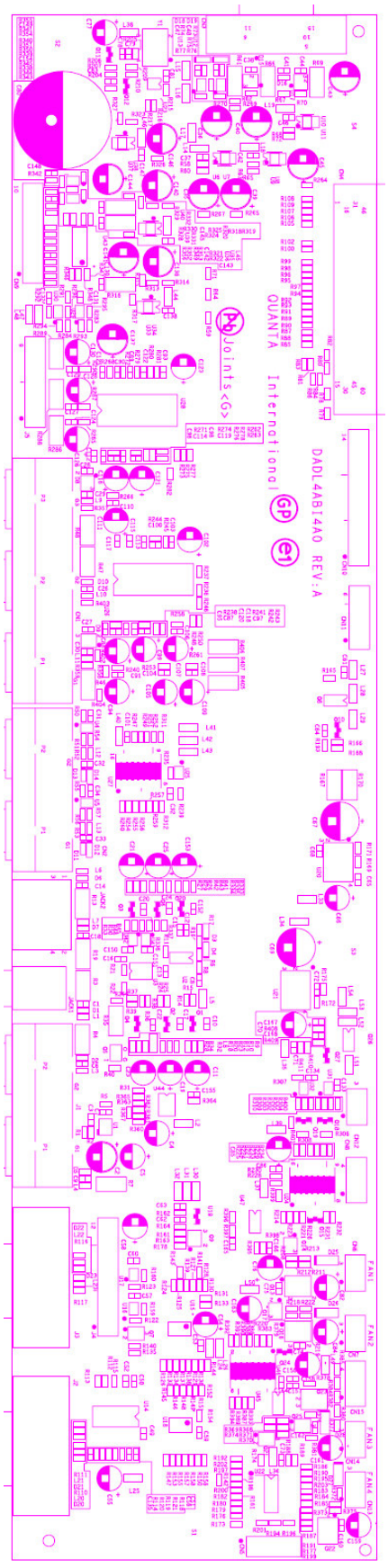
1. Button board
2. LED board
3. Video board
4. Audio board
5. Main board
6. Power board

1. Button board

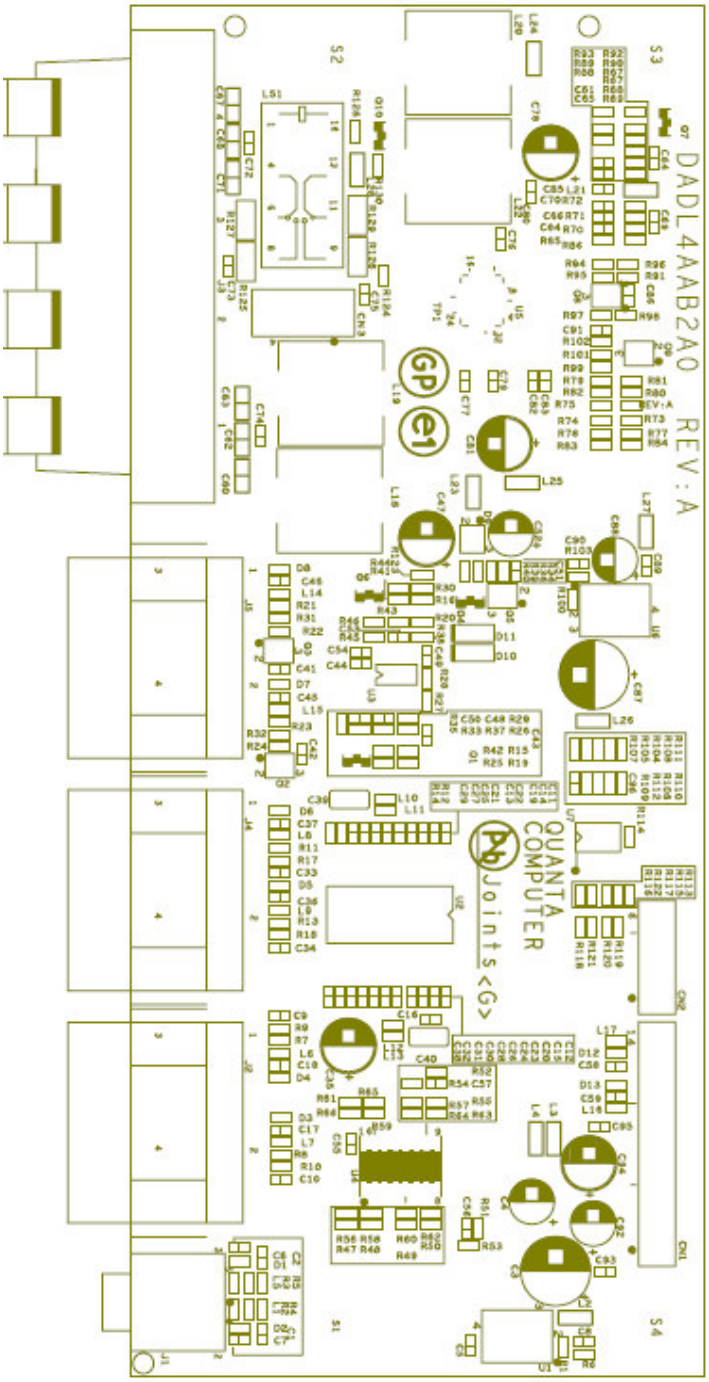


2. LED board

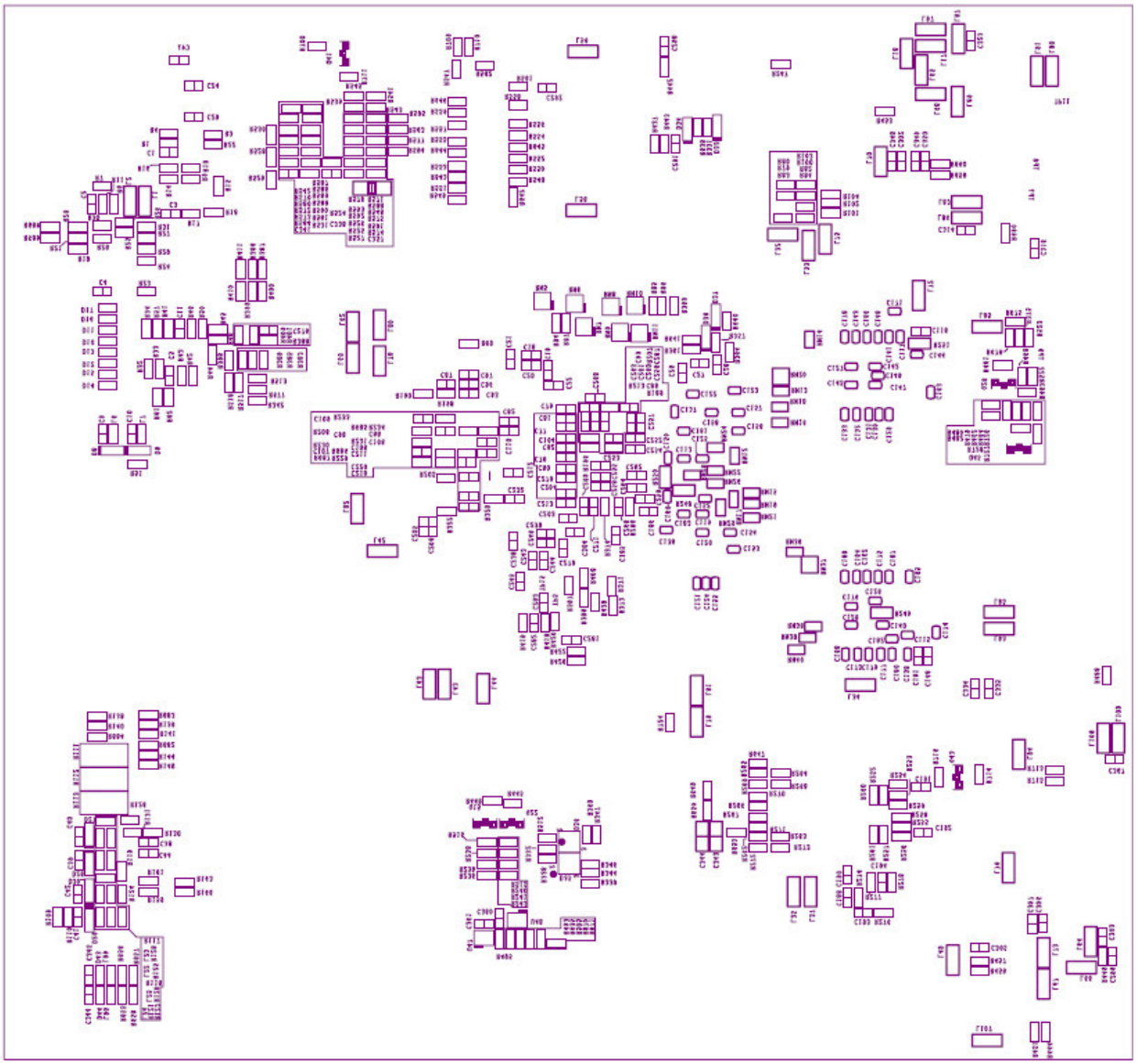
3. Video board



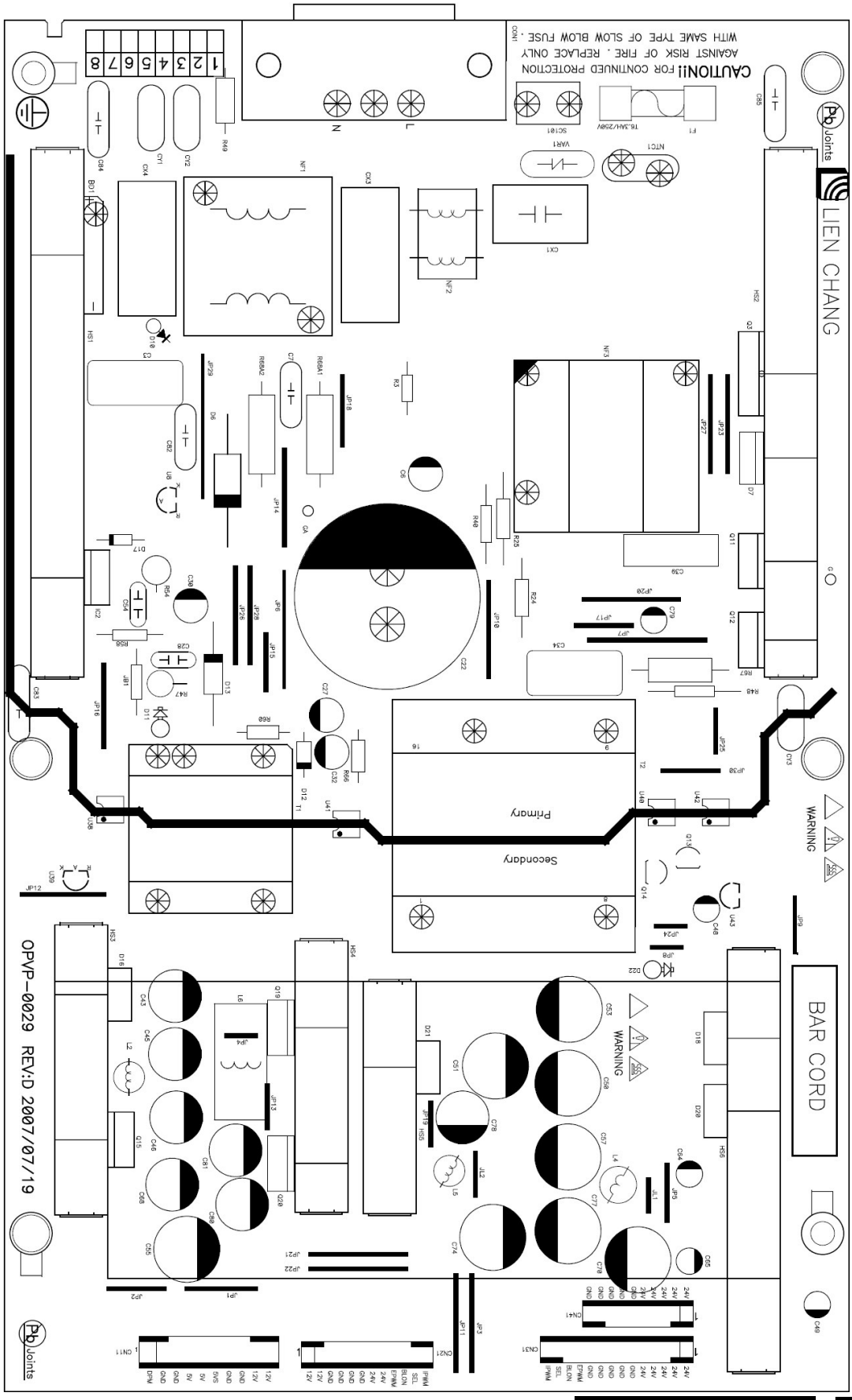
4. Audio board



5. Main board

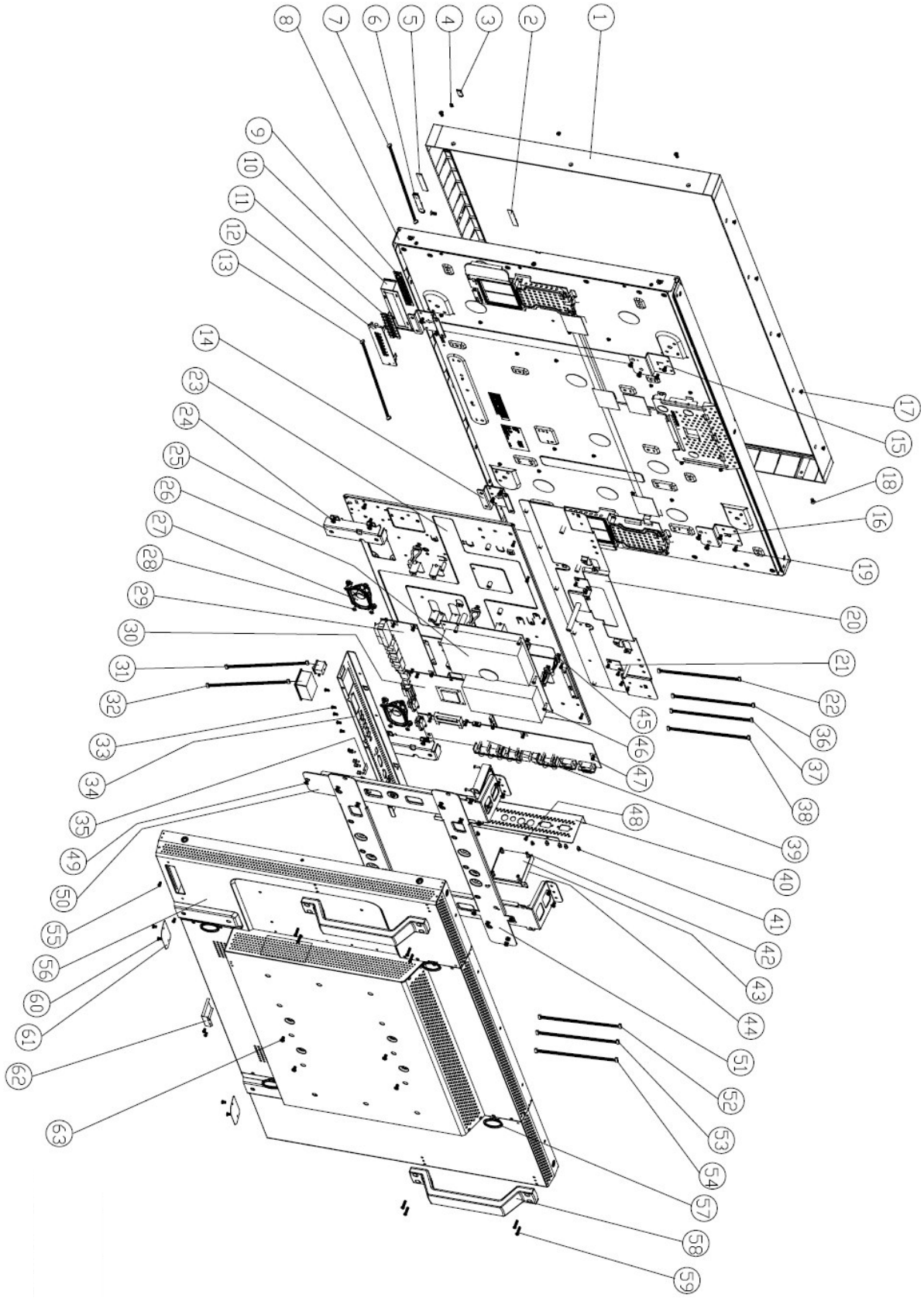


6. Power board



Primary
Primary
Secondary
Secondary

EXPLODED VIEW



ITEM	PART NO.	DESCRIPTION	Q'ty
01	EADL4001010	FRONT BEZEL GRAY DL4A(EADL4001,REV3A)	1
02	FEDL4002010	METAL LOGO DL4A(FEDL4002,REV3A)	1
03	EBDL4001010	IR LENS GRAY DL4A(EBDL4001,REV3A)	1
04	EBDL4002010	SENSOR LENS GRAY DL4A(EBDL4002,REV3A)	1
05	33DL4LB0000	DL4A LED/B ASSY	1
06	FBDL4023010	IR BKT DL4A(FBDL4023,REV3A)	1
07	DD0DL4TH500	CABLE ASSY WIRE DL4(8/8P,120CM,30V,1A)	1
08	AA420WUB001	LCD 42" LD420WUB-SBA1(1920*1080,9MS)	1
09	32DL3BB0010	DL3 BUTTON/B ASSY FOR DL4A	1
10	FBDL4021010	BKT-BUTTON DL4A(FBDL4021,REV3A)	1
11	EBDL3008010	FUNCTION BUTTON DL3A(EBDL3008,REV3A)	1
12	EBDL4003010	BUTTON FRAME GRAY DL4A(EBDL4003,REV3A)	1
13	DD0DL4TH200	CABLE ASSY WIRE DL4(7/7P,95CM,30V,1A)	1
14	FBDL4024010	PANEL SPACER-DOWN DL4A(FBDL4024,REV3A)	2
15	FBDL4019010	PANEL SPACER-L DL4A(FBDL4019,REV3A)	1
16	FBDL4020010	PANEL SPACER-R DL4A(FBDL4020,REV3A)	1
17	MS40040FDK0	SCREW M4.0*4 F(BNI)STEEL	8
18	MS40100FDJ0	SCREW M4.0*10 F(BNI)STEEL	6
19	MM40060BCI0	SCREW M4*6-B(NI,NYLOK)	22
20	FBDL4004010	SENSOR BKT DL4(FBDL4004,REV3A)	1
21	35DL2SB0000	DL2 SENSOR/B ASSY	2
22	DD0DL2TH200	CABLE ASSY MB-FAN/B DL2(4/2/2P,300V,1A)	1
23	FBDL4016010	PCB BKT DL4A(FBDL4016,REV3A)	1
24	MM40080BCI5	SCREW M4.0*8-B(NI,NYLOK) IRON	8
25	FBDL1006010	STAND SUPPORT DL1(FBDL1006,REV3A)	2
26	AF289B00001	PWR SUPPLY 289W 90-264V OPVP-0029B	1
27	DN007742001	SPEAKER ASSY 8OHM(L07742A-014)	1
28	MM30090TP40	SCREW M3.0*9.0 T(WASH,BNI)STEEL	8
29	3BDL4AB0000	DL4A AUDIO/B ASSY	1
30	31DL4MB0010	DL4A M/B ASSY(W/O CPU)	1
31	DD0DL4TH600	CAB ASSY AC SW DL4(4/3/2P,50CM,600V,1A)	1
32	DDDL4ATH200	CAB ASSY AC-IN DL4A(3/2/1P,17CM,600V,1A)	1
33	MF30060PBJ5	SCREW F3.0*6.0-P(NI)	10

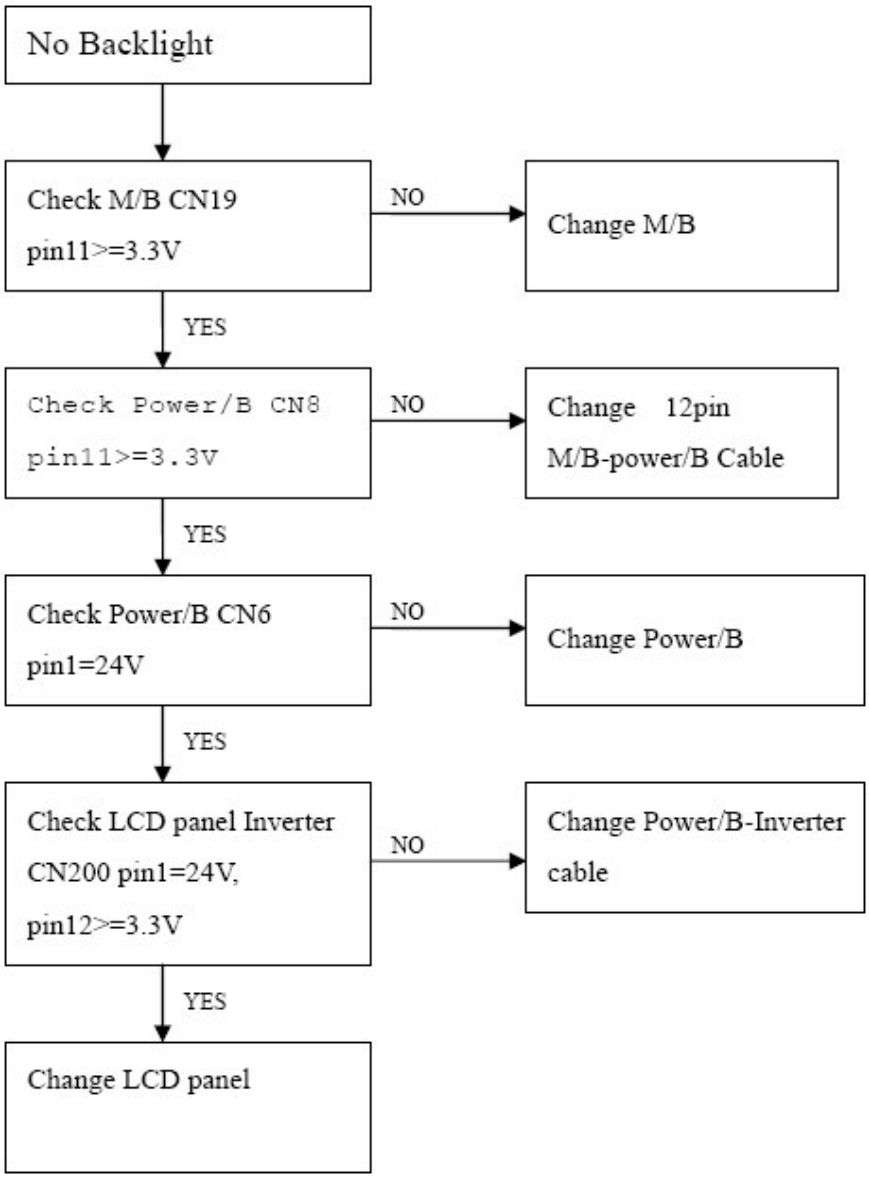
ITEM	PART NO.	DESCRIPTION	Q'ty
34	FBDL4018010	IO BKT DOWN DL4A(FBDL4018,REV3A)	1
35	FBDL3013010	BKT-ISP COVER DL3(FBDL3013,REV3A)	1
36	DD0DL4TH000	CABLE ASSY LVDS DL4(51/40P,30V,1A)	1
37	DDDL4ATH100	CABLE ASSY WIRE DL4A(12/10,47CM,300V,1A)	1
38	DD0DL4TH300	CAB ASSY PWR-INV DL4(14/14,52CM,300V,1A)	1
39	3BDL4AB0000	DL4A AUDIO/B ASSY	1
40	FBDL4017010	IO BKT SIDE DL4A(FBDL4017,REV3A)	1
41	MBLI1004018	IO NUT LI1(MBLI1004,REV3A)IRON	10
42	MM30100PBJ9	SCREW M3.0*10.0-P(NI)	8
43	DQ5DC66D001	FAN DC(12V,60*60*13)AFB0612VHC-8W56	2
44	FBDL3007010	FAN BKT DL3(FBDL3007,REV3A)	2
45	EBDL3001010	CABLE HOOK DL3(EBDL3001,REV3A)	4
46	MM40080BBW1	SCREW M4.0*8.0-B(NI,WASHER)STEEL	6
47	MS30060PGI0	SCREW M3.0*6 P(NI,WASH)STEEL	16
48	MM30050BBJ9	SCREW M3*5-B-NI-+	15
49	MM40050FBJ0	SCREW M4.0*5.0-F(NI)STEEL	16
50	FBDL4003010	VESA BKT V DL4(FBDL4003,REV3A)	2
51	FBDL4002010	VESA BKT H DL4(FBDL4002,RE	2
52	DD0DL1PB000	CABLE ASSY MB-POWER DL1(12P,300V,1A)	1
53	DD0DL2PB000	CAB ASSY MB-POWER DL2(10P,300V,1A)	1
54	DDDL4ATH000	CABLE ASSY WIRE DL4A(14/14,40CM,300V,1A)	1
55	MH30060P000	SCREW H3.0*6.0-P(BLACK)STEEL	2
56	FADL4005010	METAL COVER DL4A(FADL4005,REV3A)	1
57	EBDL3001010	CABLE HOOK DL3(EBDL3001,REV3A)	4
58	FBDL2012010	METAL HANDLE DL2(FBDL2012,REV3A)	2
59	MS30140PGA0	SCREW M3.0*14.0-P(BLACK,WASH)STEEL	8
60	MM30050PJ20	SCREW M3*5-P (BNI)	6
61	FBDL4022010	STAND PLATE DL4A(FBDL4022,REV3A)	2
62	FBDL2013010	PROTECTOR SWITCH DL2(FBDL2013,REV3A)	1
63	MS40060T320	SCREW M4.0*6-T(BNI,WASHER_PC)STEEL	4

TROUBLE SHOOTING

Index of this chapter:

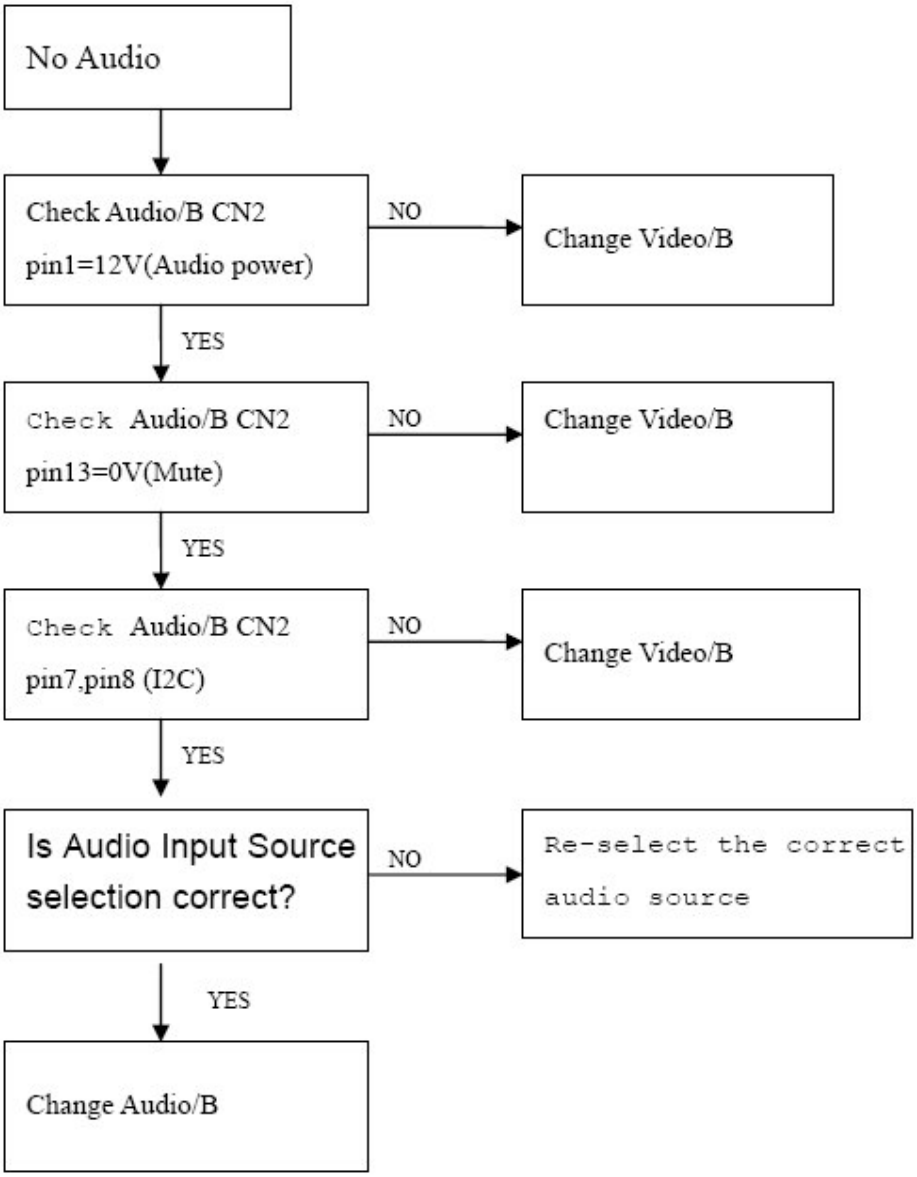
1. No Backlight
2. No Image appear
3. No Audio
4. Remote No Function
5. Keypad No Function

1. No Backlight

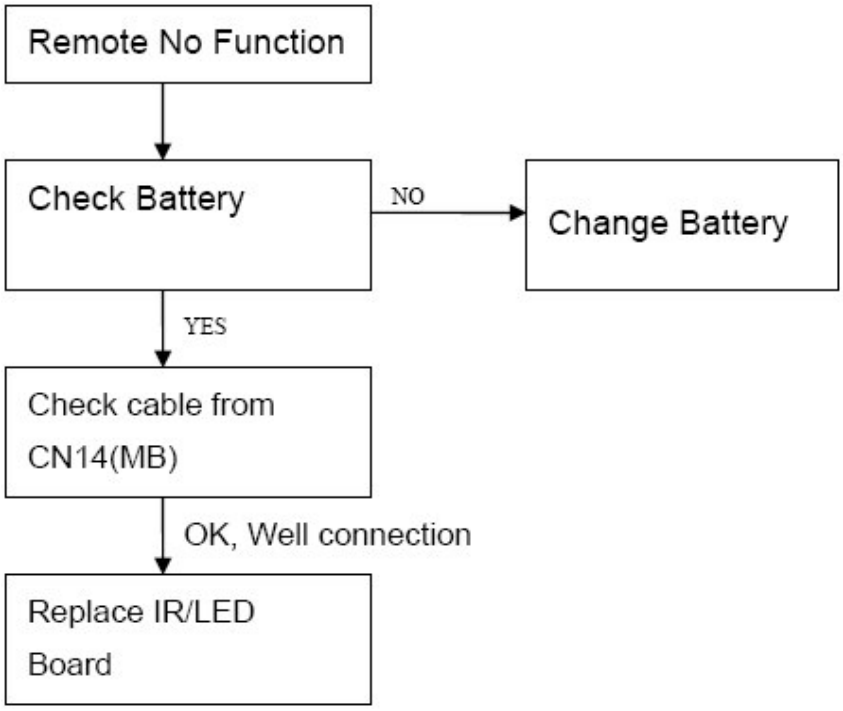


2. No Image appear

3. No Audio


No Audio
Check Audio/B CN2
pin1=12V(Audio power)
NO
Change Video/B
YES
Check Audio/B CN2
pin13=0V(Mute)
NO
Change Video/B
YES
Check Audio/B CN2
pin7,pin8 (I2C)
NO
Change Video/B
YES
Is Audio Input Source selection correct?
NO
Re-select the correct audio source
YES
Change Audio/B

4. Remote No Function



5. Keypad No Function